


Form PTO-1449	Docket No. 223002010004	Application No.: 09/884,455
INFORMATION DISCLOSURE CITATION IN A PATENT  (several sheets followed)	Applicant: Michael Houghton et al.	
	Filing Date: June 18, 2001	Group Art Unit: 1656 Examiner: William W. Moore Confirmation No.: 1938
	Delivery Date: September 14, 2009	

U.S. PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Name	Class	Subclass	Filing Date if Appropriate
	1.	09/27/94	5,350,671	Houghton et al.			
	2.	12/13/94	5,372,928	Miyamura et al.			
	3.	02/16/99	5,871,903	Miyamura et al.			

FOREIGN PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Country	Class	Subclass	Translation YES NO
	4.	04/24/85	EP 0 138 111 B1	Europe			
	5.	05/31/89	EP 0 318 216 B1	Europe			
	6.	06/01/89	WO 89/04669	PCT			

OTHER DOCUMENTS

Examiner Initials	Ref. No.	OTHER DOCUMENTS (including author, title, date, etc.)
	7.	Response to Chiron's Claim Chart Pursuant to Civil Local Rule 16-9(b) on U.S. Patent Nos. 5,371,017, 5,585,258 and 5,397,691 by Defendant Agouron Pharmaceuticals Incorporated. Chiron Corporation v. Agouron Pharmaceuticals, Inc.: Case No. C 98-2995 CW (PJH) (Related Cases C 98-9874 CW and C98-2994 CW). In the United States District Court, Northern District of California, Oakland Division, 67 pages. (08/04/1999)

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	8.	Joint Response to Chiron's Claim Chart Pursuant to Civil Local Rule 16-9(b) on U.S. Patent Nos. 5,371,017, 5,585,258 and 5,397,691 by Defendants Eli Lilly and Company and Vertex Pharmaceuticals Incorporated. Chiron Corporation v. Eli Lilly and Company, and Vertex Pharmaceuticals Inc.: Case No. C 98-2974 (Related Action Nos. C 98-2994 CW and C 98-2995 CW). In the United States District Court, Northern District of California, Oakland Division, 32 pages.
	9.	Abrahmsén et al. (1986). "Secretion of heterologous gene products to the culture medium of <i>Escherichia coli</i> " <i>Nucl. Acids Res.</i> 14(18):7487-7500.
	10.	Bazan et al. (1988). "Viral cysteine proteases are homologous to the trypsin-like family of serine proteases: Structural and functional implications" <i>PNAS</i> 85:7872-7876.
	11.	Bazan et al. (1989). "Detection of a trypsin-like serine protease domain in flaviviruses and pestiviruses" <i>Virology</i> 171:637-639.
	12.	Bazan et al. (1989). "Viral branches of the trypsin-like protease family" in UCLA Symposia on Molecular & Cellular Biology, 18th Annual Meeting, <i>J. Cell. Biochem.</i> 13A:50 (Abstract A101).
	13.	Bazan et al. (1989). "Comparative analysis of viral cysteine protease structural models" <i>FEBS Lett.</i> 249(1):5-7.
	14.	Beach et al. (1991). "Analysis of the putative nonstructural gene region of hepatitis C virus" in <u>Viral Hepatitis and Liver Disease: Proceedings of the 1990 International Symposium on Viral Hepatitis and Liver Disease: Contemporary Issues and Future Prospects</u> , Hollinger et al. eds., pp. 376-381.
	15.	Biedrzycka et al. (1987). "Characterization of protease cleavage sites involved in the formation of the envelope glycoprotein and three non-structural proteins of dengue virus type 2, New Guinea C strain" <i>J. Gen. Virol.</i> 68:1317-1326.
	16.	Boonmar et al. (1990). "Molecular Cloning of Hepatitis C Virus cDNA from Plasma of an Implicated Donor of Posttransfusion Non-A, Non-B Hepatitis" in <u>Proceedings of the 1990 International Symposium On Viral Hepatitis and Liver Disease</u> . Blaine et al. eds., Williams & Wilkins: Baltimore, pp. 371-374.
	17.	Bradley et al. (1991). "Hepatitis C virus: Background and strategies for cloning a major etiologic agent for PT-NANBH" in <u>Viral Hepatitis and Liver Disease: Proceedings of the 1990 International Symposium on Viral Hepatitis and Liver Disease: Contemporary issues and Future Prospects</u> , Hollinger et al. eds., pp. 320-328.
	18.	Brake et al. (August, 1984). " α -factor-directed synthesis and secretion of mature foreign proteins in <i>Saccharomyces cerevisiae</i> " <i>PNAS</i> 81:4642-4646.

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	19.	Castle et al. (1986). "Primary structure of the west nile flavivirus genome region coding for all nonstructural proteins" <i>Virology</i> 149:10-26.
	20.	Chambers et al. (1989). "Yellow fever virus proteins NS2A, NS2B, and NS4B: Identification and partial N-terminal amino acid sequence analysis" <i>Virology</i> 169:100-109.
	21.	Chambers et al. (1990). "Flavivirus genome organization, expression, and replication" in <i>Annual Review in Microbiology</i> , 44:649-688.
	22.	Choo et al. (April 21, 1989). "Isolation of a cDNA clone derived from a blood-borne non-A, non-B viral hepatitis genome" <i>Science</i> 244:359-362.
	23.	Choo et al. (1990). "Detection and mapping of immunologic epitopes expressed by bacterial cDNA clones of the hepatitis C virus" in <u>Viral Hepatitis and Liver Disease: Proceedings of the 1990 International Symposium on Viral Hepatitis and Liver Disease: Contemporary Issues and Future Prospects</u> , Hollinger et al. eds., pp. 345-346.
	24.	Choo et al. (September, 1989). "Hepatitis C virus is a distant relative of the flaviviruses and pestiviruses" Chapter 5 in <u>Viral Hepatitis C, D and E</u> , Shikata, ed., Excerpta Medica: New York, pp. 47-52.
	25.	Choo et al. (March 1991). "Genetic organization and diversity of the hepatitis C virus" <i>PNAS</i> 88:2451-2455.
	26.	Coia et al. (1988). "Nucleotide and complete amino acid sequences of Kunjin virus: Definitive gene order and characteristics of the virus-specified proteins" <i>J. Gen. Virol.</i> 69:1-21.
	27.	Collett et al. (1988). "Comparisons of the pestivirus bovine viral diarrhoea virus with members of the flaviviridae" <i>J. Gen. Virol.</i> 69:2637-2643.
	28.	Collett et al. (1988). "Molecular cloning and nucleotide sequence of the pestivirus bovine viral diarrhea virus" <i>Virology</i> 165:191-199.
	29.	Collett et al. (1988). "Proteins encoded by bovine viral diarrhea virus: The genomic organization of a pestivirus" <i>Virology</i> 165:200-208.
	30.	Cousens et al. (1987). "High level expression of proinsulin in the yeast, <i>Saccharomyces cerevisiae</i> " <i>Gene</i> 61:265-275.
	31.	Dalgarno et al. (1986). "Partial nucleotide sequence of the Murray Valley Encephalitis virus genome: Comparison of the encoded polypeptides with yellow fever virus structural and non-structural proteins" <i>J. Mol. Biol.</i> 187:309-323.
	32.	Deubel et al. (1988). "Nucleotide sequence and deduced amino acid sequence of the nonstructural proteins of dengue type 2 virus, Jamaica genotype: Comparative analysis of the full-length genome" <i>Virology</i> 165:234-244.

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	33.	Gorbalenya et al. (January, 1986). "Polivirus-encoded proteinase 3C: A possible evolutionary link between cellular serine and cysteine proteinase families" <i>FEBS Lett.</i> 194(2):253-257.
	34.	Gorbalenya et al. (1988). "One more conserved sequence motif in helicases" <i>Nucl. Acids Res.</i> 16(15):7734.
	35.	Gorbalenya et al. (1989). "Two related superfamilies of putative helicases involved in replication, recombination, repair and expression of DNA and RNA genomes" <i>Nucl. Acids Res.</i> 17(12):4713-4730.
	36.	Gorbalenya et al. (January 1989). "Cysteine proteases of positive strand RNA viruses and chymotrypsin-like serine proteases" <i>FEBS Lett.</i> 243(2):103-114.
	37.	Gorbalenya. (1989). "N-terminal domains of putative helicases of flavi- and pestiviruses may be serine proteases" <i>Nucl. Acids Res.</i> 17(10):3889-3897.
	38.	Hahn et al. (1988). "Nucleotide sequence of dengue 2 RNA and comparison of the encoded proteins with those of other flaviviruses" <i>Virology</i> 162:167-180.
	39.	Hopp et al. (October 1988). "A short polypeptide marker sequence useful for recombinant protein identification and purification" <i>Bio/Technology</i> 6:1204-1210.
	40.	Houghton et al. (1991). "Hepatitis C virus (HCV): A relative of the pestiviruses and flaviviruses" in <i>Viral Hepatitis and Liver Disease: Proceedings of the 1990 International Symposium on Viral Hepatitis and Liver Disease: Contemporary Issues and Future Prospects</i> , Hollinger et al. eds., pp. 328-333.
	41.	James et al. (1978). "Amino acid sequence alignment of bacterial and mammalian pancreatic serine proteases based on topological equivalences" <i>CJBIAE</i> 56(6):396-402.
	42.	Kato et al. (1989). "Japanese isolates of the non-A, non-B hepatitis viral genome show sequence variations from the original isolate in the USA" <i>Proc. Jap. Acad.</i> 659(9):219-223.
	43.	Kohl et al. (July 1988). "Active human immunodeficiency virus protease is required for viral infectivity" <i>PNAS</i> 85:4686-4690.
	44.	Kräusslich et al. (1988). "Viral proteinases" <i>Ann. Rev. Biochem.</i> 57:701-754.
	45.	Kraut (1977). "Serine proteases: Structure and mechanism of catalysis" <i>Ann. Rev. Biochem.</i> 46:331-358.
	46.	Kubo et al. (1989). "A cDNA fragment of hepatitis C virus from an implicated donor of post-transfusion non-A, non-B hepatitis in Japan" <i>Nucl. Acids Res.</i> 17(24):10367-10372.
	47.	Kuo et al. (April 21, 1989). An assay for circulating antibodies to a major etiologic virus of human non-A, non-B hepatitis" <i>Science</i> 244:362-364.
	48.	Lain et al. (1989). "Homologous potyvirus and flavivirus proteins belonging to a superfamily of helicase-like proteins" <i>Gene</i> 82:357-362.

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	49.	Mackow et al. (1987). "The nucleotide sequence of dengue type 4 virus: Analysis of genes coding for nonstructural proteins" <i>Virology</i> 159:217-228.
	50.	Mandl et al. (1989). "Genome sequence of tick-borne Encephalitis virus (western subtype) and comparative analysis of nonstructural proteins with other flaviviruses" <i>Virology</i> 173:291-301.
	51.	Markoff. (1989). "In vitro processing of dengue virus structural proteins: Cleavage of the pre-membrane protein" <i>J. Virol.</i> 63(8):3345-3352.
	52.	Meyers et al. (1989). "Molecular cloning and nucleotide sequence of the genome of hog cholera virus" <i>Virology</i> 171:555-567.
	53.	Miller et al. (1990) "Hepatitis C virus shares amino acid sequence similarity with pestiviruses and flaviviruses as well as members of two plant virus supergroups" <i>PNAS USA</i> 87:2057-2061.
	54.	Neurath. (April 27, 1984). "Evolution of proteolytic enzymes" <i>Science</i> 224:350-357.
	55.	Nowak et al. (1989). "Analyses of the terminal sequences of west nile virus structural proteins and of the in vitro translation of these proteins allow the proposal of a complete scheme of the proteolytic cleavages involved in their synthesis" <i>Virology</i> 169:365-376.
	56.	Rice et al. (1985). "Nucleotide sequence of yellow fever virus: Implications for flavivirus gene expression and evolution" <i>Science</i> 229:726-733.
	57.	Rice et al. (1986). "Partial-N-terminal amino acid sequences of three nonstructural proteins of two flaviviruses" <i>Virology</i> 151:1-9.
	58.	Rice et al. (1986). "Chapter 10: Structure of the flavivirus genome" in <u>The Togaviridae and Flaviviridae</u> , Schlesinger et al., eds., Plenum Press: New York, pp. 279-326.
	59.	Ruiz-Linares et al. (1989). "Processing of yellow fever virus polyprotein: Role of cellular proteases in maturation of the structural proteins" <i>J. Virol.</i> 63(10):4199-4209.
	60.	Speight et al. (1988). "Gene mapping and positive identification of the non-structural proteins NS2A, NS2B, NS3, NS4B and NS5 of the flavivirus kunjin and their cleavage sites" <i>J. Gen. Virol.</i> 69:23-34.
	61.	Speight et al. (1989). "Carboxy-terminal analysis of nine proteins specified by the flavivirus kunjin: Evidence that only the intracellular core protein is truncated" <i>J. Gen. Virol.</i> 70:2209-2214.
	62.	Strauss et al. (1986). "Replication of alphaviruses and flaviviruses: Proteolytic processing of polyproteins" in <u>Positive Strand RNA Viruses: Proceedings of a UCLA Symposium held in Keystone, Colorado</u> , Brinton et al., eds., Alan R. Liss: New York, pp. 209-225.
	63.	Strauss et al. (1988). "Chapter 4: Replication of the RNAs of alphaviruses and flaviviruses" in <u>RNA Genetics: RNA directed virus Replication</u> , Volume 1, Domingo et al., eds., CRC Press: Boca Raton, Florida, pp. 71-90.

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	64.	Strauss et al. (1991). "Structure and function of the flavivirus and pestivirus genomes" in <u>Viral Hepatitis and Liver Disease: Proceedings of the 1990 International Symposium on Viral Hepatitis and Liver Disease: Contemporary Issues and Future Prospects</u> , Hollinger et al. eds., pp. 333-334.
	65.	Sumiyoshi et al. (1987). "Complete nucleotide sequence of the Japanese Encephalitis virus genome RNA" <i>Virology</i> 161:497-510.
	66.	Trent et al. (1987). "Partial nucleotide sequence of St. Louis Encephalitis virus RNA: Structural proteins, NS1, ns2a, and ns2b" <i>Virology</i> 156:293-304.
	67.	Weiner et al. (1990). "Detection of hepatitis C viral sequences in non-A, non-B hepatitis" <i>The Lancet</i> 335(8680):1-3.
	68.	Wellink et al. (1988). "Proteases involved in the processing of viral polypeptides" <i>Arch. Virol.</i> 98:1-26.
	69.	Westaway et al. (1985). "Flaviviridae" <i>Interviol.</i> 24:183-192.
	70.	Yaegashi et al. (1986). "Partial sequence analysis of cloned dengue virus type 2 genome" <i>Gene</i> 46:257-267.

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	100.	11/20/1973	3,773,924	Ho et al.			
	101.	05/13/1975	3,883,497	Gregory et al.			
	102.	06/02/1981	4,271,145	Wands et al.			
	103.	10/26/1982	4,356,164	Tabor et al.			
	104.	07/26/1983	4,395,395	Tabor et al.			
	105.	02/14/1984	4,431,740	Bell et al.			
	106.	03/20/1984	4,438,098	Tabor et al.			
	107.	08/07/1984	4,464,474	Coursaget et al.			
	108.	09/17/1985	4,542,016	Trepo			
	109.	02/11/1986	4,569,794	Smith et al			
	110.	03/24/1987	4,652,525	Rutter et al.			
	111.	11/17/1987	4,707,439	Seto et al.			
	112.	09/06/1988	4,769,331	Roizman et al.			
	113.	10/11/1988	4,777,245	Foung et al.			
	114.	09/26/1989	4,870,008	Brake			
	115.	09/26/1989	4,870,026	Wands et al.			
	116.	10/03/1989	4,871,659	Pillot			
	117.	08/28/1990	4,952,493	Kettner et al.			
	118.	08/28/1990	4,952,494	Zeldis et al.			
	119.	09/25/1990	4,959,317	Saeuer			
	120.	04/23/1991	5,010,175	Rutter et al.			
	121.	07/16/1991	5,032,511	Takahashi et al.			
	122.	12/31/1991	5,077,193	Mishiro et al.			
	123.	04/28/1992	5,108,919	Liu et al.			

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	124.	07/21/1992	5,132,213	Bachmair et al.			
	125.	11/24/1992	5,166,057	Palese et al.			
	126.	01/05/1993	5,176,994	Mishiro et al.			
	127.	06/08/1993	5,218,099	Reyes et al.			
	128.	10/12/1993	5,252,477	Oroszlan et al.			
	129.	02/22/1994	5,288,641	Roizman			
	130.	05/31/1994	5,317,086	Bartlett et al.			
	131.	06/27/1995	5,428,145	Okamoto et al.			
	132.	07/25/1995	5,436,318	Reyes et al.			
	133.	08/01/1995	5,437,974	Ryan et al.			
	134.	08/22/1995	5,443,965	Reyes et al.			
	135.	12/26/1995	5,478,727	Roizman et al.			
	136.	03/12/1996	5,498,616	Mallamo et al.			
	137.	05/07/1996	5,514,539	Bukh et al.			
	138.	06/18/1996	5,527,669	Resnick et al.			
	139.	07/23/1996	5,538,865	Reyes et al.			
	140.	08/27/1996	5,550,016	Okamoto			
	141.	09/03/1996	5,552,310	Yoshikura et al.			
	142.	12/17/1996	5,585,258	Houghton et al.			
	143.	01/28/1997	5,597,691	Houghton et al.			
	144.	10/21/1997	5,679,342	Houghton et al.			
	145.	12/16/1997	5,698,390	Houghton et al.			
	146.	01/27/1998	5,712,087	Houghton et al.			
	147.	01/27/1998	5,712,088	Houghton et al.			
	148.	01/27/1998	5,712,145	Houghton et al.			

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	149.	02/03/1998	5,714,371	Ramanathan et al.			
	150.	02/03/1998	5,714,596	Houghton et al.			
	151.	04/14/1998	5,739,002	De Francesco et al.			
	152.	05/05/1998	5,747,240	Kink et al.			
	153.	05/05/1998	5,747,241	Miyamura et al.			
	154.	05/05/1998	5,747,339	Okayama et al.			
	155.	06/02/1998	5,759,795	Jubin			
	156.	06/16/1998	5,766,916	Belyaev et al.			
	157.	06/16/1998	5,767,233	Zhang et al.			
	158.	12/01/1998	5,843,752	Dasmahapatra et al.			
	159.	01/05/1999	5,856,437	Miyamura et al.			
	160.	01/19/1999	5,861,267	Su			
	161.	01/26/1999	5,863,719	Houghton et al.			
	162.	02/23/1999	5,874,565	Rice et al.			
	163.	03/23/1999	5,885,799	Houghton et al.			
	164.	09/28/1999	5,959,092	Miyamura et al.			
	165.	10/19/1999	5,968,775	Houghton et al.			
	166.	11/23/1999	5,989,905	Houghton et al.			
	167.	02/22/2000	6,027,729	Houghton et al.			
	168.	05/30/2000	6,068,994	Barr			
	169.	08/01/2000	6,096,541	Houghton et al.			
	170.	09/12/2000	6,117,639	Germann et al.			
	171.	10/03/2000	6,127,116	Rice et al.			
	172.	11/14/2000	6,147,100	Seno et al.			
	173.	11/28/2000	6,153,579	Kim et al.			

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	174.	01/09/2001	6,171,782	Houghton et al.			

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	175.	03/19/1998	CA 2,264,964	Canada				
	176.	10/05/1991	CA 2,079,105	Canada				
	177.	04/29/1981	0 027 657	Europe				
	178.	02/17/1982	0 046 039	Europe				
	179.	09/01/1982	0 058 676	Europe				
	180.	10/06/1982	0 061 974	Europe				
	181.	12/08/1982	0 066 296	Europe				
	182.	01/05/1983	0 068 465	Europe				
	183.	02/16/1983	0 071 640	Europe				
	184.	03/30/1983	0 074 986	Europe			Abstract	
	185.	10/26/1983	0 092 249	Europe				
	186.	08/22/1984	0 116 201	Europe				
	187.	10/03/1984	0 120 551	Europe				
	188.	11/14/1984	0 124 896	Europe			Abstract	
	189.	12/27/1984	0 128 995	Europe				
	190.	09/11/1985	0 154 392	Europe				

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	191.	12/18/1985	0 164 556	Europe				
	192.	07/02/1986	0 186 526	Europe				
	193.	08/13/1986	0 190 972	Europe				
	194.	09/10/1986	0 194 207	Europe				
	195.	10/01/1986	0 196 056	Europe				
	196.	01/14/1987	0 208 672	Europe				
	197.	10/21/1987	0 242 300	Europe			Abstract	
	198.	04/13/1988	0 263 761	Europe				
	199.	08/10/1988	0 277 437	Europe			Abstract	
	200.	08/24/1988	0 279 460	Europe			Abstract	
	201.	11/30/1988	0 293 274	Europe				
	202.	10/04/1989	0 335 135	Europe				
	203.	11/08/1989	0 340 986	Europe				
	204.	04/11/1990	0 363 025	Europe				
	205.	07/11/1990	0 377 303	Europe				
	206.	09/19/1990	0 388 232	Europe				
	207.	02/27/1991	0 414 475	Europe				
	208.	03/13/1991	0 416 725	Europe				
	209.	03/27/1991	0 419 182	Europe				
	210.	04/10/1991	0 421 109	Europe				

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	211.	10/09/1991	0 450 931	Europe				
	212.	10/16/1991	0 451 891	Europe				
	213.	01/29/1992	0 468 527	Europe				
	214.	01/29/1992	0 468 657	Europe				
	215.	04/08/1992	0 479 376	Europe				
	216.	09/01/1999	0 939 128	Europe				
	217.	07/22/1988	2 609 807	France			Abstract	
	218.	06/26/1991	GB 2 239 245	Great Britain				
	219.	01/21/1982	WO 82/00205	WIPO				
	220.	08/19/1982	WO 82/02774	WIPO				
	221.	10/14/1982	WO 82/03330	WIPO				
	222.	03/29/1984	WO 84/01107	WIPO				
	223.	02/26/1987	WO 87/01131	WIPO				
	224.	10/08/1987	WO 87/05930	WIPO				
	225.	04/07/1988	WO 88/02406	WIPO				
	226.	05/19/1988	WO 88/03410	WIPO				
	227.	08/25/1988	WO 88/06184	WIPO				
	228.	11/16/1989	WO 89/10931	WIPO				
	229.	12/28/1989	WO 89/12462	WIPO				
	230.	12/28/1989	WO 89/12641	WIPO				

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	231.	01/25/1990	WO 90/00597	WIPO				
	232.	09/07/1990	WO 90/10060	WIPO				
	233.	09/07/1990	WO 90/10075	WIPO				
	234.	10/04/1990	WO 90/11089	WIPO				
	235.	04/04/1991	WO 91/04262	WIPO				
	236.	05/02/1991	WO 91/05801	WIPO				
	237.	10/17/1991	WO 91/15575	WIPO				
	238.	10/17/1991	WO 91/15596	WIPO				
	239.	10/17/1991	WO 91/15771	WIPO				
	240.	01/09/1992	WO 92/00328	WIPO				
	241.	03/05/1992	WO 92/03458	WIPO				
	242.	01/21/1993	WO 93/01305	WIPO				
	243.	11/10/1994	WO 94/25064	WIPO				
	244.	11/10/1994	WO 94/25601	WIPO				
	245.	11/10/1994	WO 94/25602	WIPO				
	246.	01/19/1995	WO 95/02059	WIPO				
	247.	01/19/1995	WO 95/02065	WIPO				
	248.	08/31/1995	WO 95/22985	WIPO				
	249.	02/22/1996	WO 96/05513	WIPO				
	250.	05/09/1996	WO 96/13590	WIPO				

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	251.	11/07/1996	WO 96/34976	WIPO				
	252.	11/14/1996	WO 96/35709	WIPO				
	253.	11/14/1996	WO 96/35717	WIPO				
	254.	11/21/1996	WO 96/36702	WIPO				
	255.	03/06/1997	WO 97/08304	WIPO				
	256.	03/13/1997	WO 97/09349	WIPO				
	257.	04/03/1997	WO 97/12033	WIPO				
	258.	04/03/1997	WO 97/12043	WIPO				
	259.	10/09/1997	WO 97/36554	WIPO				
	260.	10/16/1997	WO 97/38117	WIPO				
	261.	01/08/1998	WO 98/00548	WIPO				
	262.	03/19/1998	WO 98/11134	WIPO				
	263.	03/26/1998	WO 98/12308	WIPO				
	264.	04/02/1998	WO 98/13482	WIPO				
	265.	04/23/1998	WO 98/16657	WIPO				
	266.	04/30/1998	WO 98/17679	WIPO				
	267.	05/28/1998	WO 98/22496	WIPO				
	268.	08/27/1998	WO 98/37180	WIPO				
	269.	10/01/1999	WO 99/50230	WIPO				

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	270.	GenBank Data Base Accession No. X16543 (August 5, 1995).
	271.	GenBank Data Base Accession No. D90208 (February 7, 1999).
	272.	GenBank Data Base Accession No. M67463 (August 2, 1993).
	273.	GenBank Data Base Accession No. S06067 (August 26, 1999)
	274.	Abe et al. (1989). "Non-A, non-B hepatitis: visualization of virus-like particles from chimpanzee and human sera," <i>Arch. Virol.</i> 104(3-4):351-355.
	275.	Abdi et al. (1986). "Extended phase I study of human beta-interferon in human cancer," <i>Clin. Invest. Med.</i> 9(1):33-40.
	276.	Abrass et al. (1980). "Non-specificity of circulating immune complexes in patients with acute and chronic liver disease," <i>Clin. Exp. Immunol.</i> 40(2):292-298.
	277.	Adinolfi et al. (1996). "Solid phase synthesis of oligosaccharides," <i>Tetra. Letters.</i> 37(28):5007-5010.
	278.	Alam, JJ (1995). "Interferon-beta treatment of human disease," <i>Curr. Opin. Biotechnol.</i> 6(6):688-691.
	279.	Alberti et al. (1981). "Detection by immunofluorescence of an antigen-antibody system in patients with acute and chronic non-A, non-B hepatitis," <i>Liver.</i> 1(3):183-190.
	280.	Alberti et al. (1993). "Treatment with interferon(s) of community-acquired chronic hepatitis and cirrhosis type C," <i>J. Hepatol.</i> 17 (Suppl 3):S123-S126.
	281.	Allain et al. (1984). "Non-A, non-B hepatitis in hemophilic patients with inhibitor treated with activated prothrombin complex concentrates: lack of correlation with an antigen possibly related to non-A, non-B hepatitis," <i>Vox Sang.</i> , 47(1):47-53.
	282.	Allen et al. (1995). "Isolation of high-affinity RNA ligands to HIV-1 integrase from a random pool," <i>Virology</i> 209:327-336.
	283.	Alter et al. (1987). "Transfusion-associated Non-A, non-B hepatitis: The First decade," International Symposium, Vol. 21, p. 43A. (Abstract No. 122)
	284.	Alter et al. (1989). "Detection of antibody to hepatitis C virus in prospectively followed transfusion recipients with acute and chronic non-A, non-B hepatitis," <i>N. Engl. J. Med.</i> 321(22):1494-1500.
	285.	Alter, H.J. (1991). "Descartes before the horse: I clone, therefore I am: the hepatitis C virus in current perspective," <i>Ann. Intern. Med.</i> 115(8):644-649.
	286.	Alter et al. (1994). "The epidemiology of viral hepatitis in the United States," <i>Gastroenterol. Clin. North Am.</i> 23(3):437-55.

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Examiner Initials	Ref. No.	OTHER DOCUMENTS (including author, title, date, etc.)
	287.	Alter, H.J. (1995). "To C or not to C: these are the questions," <i>Blood</i> 85(7):1681-1695.
	288.	Alter, M.J. (1995). "Epidemiology of hepatitis C in the West," <i>Semin. Liver Dis.</i> 15(1):5-14.
	289.	Alter, M.J. (1997). "Epidemiology of Hepatitis C," <i>Hepatology</i> 26(3, Suppl. 1):62S-65S.
	290.	Amerik et al. (1991). "Site-directed mutagenesis of la protease: a catalytically active serine residue," <i>FEBS Letters</i> 287(1,2):211-214.
	291.	Arankalle et al. (1988). "Aetiological association of a virus-like particle with enterically transmitted non-A, non-B hepatitis," <i>Lancet.</i> 12;1(8585):550-554.
	292.	Arima et al. (1989). "A lambda gt11-cDNA clone specific for chronic hepatitis C generated from pooled serum presumably infected by hepatitis C virus," <i>Gastroenterol Jpn.</i> 24(5):545-548.
	293.	Arima et al. (1989). "Cloning of a cDNA associated with acute and chronic hepatitis C infection generated from patients serum RNA," <i>Gastroenterol Jpn.</i> 24(5):540-544.
	294.	Anonymous (June 1990), "Hepatitis C virus upstanding," <i>Lancet.</i> 335(8703):1431-1432.
	295.	Babe LM et al. (1994). "Constitutive production of nonenveloped human immunodeficiency virus type 1 particles by a mammalian cell line and effects of a protease inhibitor on particle maturation," <i>Antimicrob Agents Chemother.</i> 38(10):2430-2439.
	296.	Babe, L. M. and Craik, C. S. (1997). "Viral Proteases: Evolution of Diverse Structural Motifs to Optimize Function," <i>Cell</i> 91:427-430.
	297.	Babes et al. (1980). "Seropositivities in posttransfusion hepatitis," <i>Virologie</i> , 31(4):315-316.
	298.	Babes et al. (1983). "New aspects of viral hepatitis plurietiology," <i>Virologie</i> , 34(1):61-63.
	299.	Baggio et al. (1996). "From poor substrates to good inhibitors: design of inhibitors for serine and thiol proteases," <i>Biochemistry.</i> 35(11):3351-3353.
	300.	Baker, S. C. et al. (1993). "Identification of the Catalytic Sites of a Papain-Like Cysteine Proteinase of Murine Coronavirus," <i>Journal of Virology</i> 67(10):6056-6063.
	301.	Baldock et al. (1996). "A mechanism of drug action revealed by structural studies of enoyl reductase," <i>Science.</i> 274(5295):2107-2110.
	302.	Bamber et al. (1981). "Short incubation non-A, non-B hepatitis transmitted by factor VIII concentrates in patients with congenital coagulation disorders: a preliminary report of an antigen/antibody system," <i>Med Lab Sci.</i> 38(4):373-378.
	303.	Bamber et al. (1981). "Ultrastructural features in chronic non-A, non-B (NANB) hepatitis: A controlled blind study," <i>J Med Virol.</i> 8(4):267-275.

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	304.	Barr et al. (1986). "7-Deaza-2'-Deoxyguanosine-5'-Triphosphate: enhanced resolution in M13 dideoxy sequencing," <i>Biotechniques</i> 4(5):428-432.
	305.	Barr et al. (1988). "Expression and processing of biologically active fibroblast growth factors in the yeast <i>Saccharomyces cerevisiae</i> ," <i>J Biol Chem.</i> 263(31):16471-16478.
	306.	Barrett et al. (1986). "Cystein proteinase inhibitors of the cystatin superfamily," Chapter 18 in <u>Proteinase Inhibitors</u> , A.J. Barrett and G. Salvesen, eds., Elsevier: Amsterdam, pp. 515-569.
	307.	Bartenschlager et al. (1993). "Nonstructural protein 3 of the hepatitis C virus encodes a serine-type proteinase required for cleavage at the NS3/4 and NS4/5 junctions," <i>J Virol.</i> 67(7):3835-3844.
	308.	Bartenschlager et al. (1994). "Kinetic and structural analyses of hepatitis C virus polyprotein processing," <i>J Virol.</i> 68(8):5045-5055.
	309.	Bartenschlager et al. (1995). "Substrate determinants for cleavage in cis and in trans by the hepatitis C virus NS3 proteinase," <i>J Virol.</i> 69(1):198-205.
	310.	Bartenschlager et al. (1995). "Structural and functional analysis of the hepatitis C virus NS3 proteinase, Abstract, page 39.
	311.	Bartenschlager, R. et al. (1995). "Complex Formation Between the NS3 Serine-Type Proteinase of the Hepatitis C Virus and NS4A and Its Importance for Polyprotein Maturation," <i>Journal of Virology</i> 69(12):7519-7528.
	312.	Bartenschlager, R. (1997). "Candidate Targets for Hepatitis C Virus-Specific Antiviral Therapy," <i>Intervirology</i> 40:378-393.
	313.	Bartenschlager, R. (1999). "The NS3/4A Proteinase of the Hepatitis C Virus: Unravelling Structure and Function of an Unusual Enzyme and a Prime Target for antiviral Therapy," <i>Journal of Viral Hepatitis</i> 6:165-181.
	314.	Duplicate of Reference no. 309.
	315.	Bartholomeusz et al. (1995). "Expression of the hepatitis C virus nonstructural protein NS3 in <i>Escherichia Coli</i> : characterization of ATPase/GTPase activity," 3rd International Meeting on Hepatitis C Virus and related viruses, Australia, page 188.
	316.	Bazan JF et al. (1990). "Structural and Catalytic Models of Trypsin-Like Viral Proteases," <i>Seminars in Virology</i> 1(5):311-322.
	317.	Behrens et al. (1996). "Identification and properties of the RNA-dependent RNA polymerase of hepatitis C virus," <i>EMBO J.</i> 15(1):12-22.

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	318.	Bell et al., (1985). "Amino-terminal amino acid sequences of structural proteins of three flaviviruses," <i>Virology</i> 143:224-229.
	319.	Belyaev, A. S. et al. (1998). "Hepatitis G Virus Encodes Protease Activities Which Can Effect Processing of the Virus Putative Nonstructural Proteins," <i>Journal of Virology</i> 72(1):868-872.
	320.	Bennett et al. (1996). "Modeling therapeutic benefit in the midst of uncertainty: therapy for hepatitis C." <i>Dig Dis Sci.</i> 41(12 Suppl):56S-62S.
	321.	Bertolini et al. (1993). "The human bone-marrow-derived B-cell line CE, susceptible to hepatitis C virus infection." <i>Res Virol.</i> 144(4):281-285.
	322.	Bhandari, B. N. and Wright, T. L. (1995). "Hepatitis C: An Overview," <i>Annu. Rev. Med.</i> 46:309-317.
	323.	Duplicate of Reference No. 322.
	324.	Bianchi et al. (1996). "Synthetic depsipeptide substrates for the assay of human hepatitis C virus protease," <i>Anal Biochem.</i> 237(2):239-244.
	325.	Bianchi et al. (1997). "Complex formation between the hepatitis C virus serine protease and a synthetic NS4A cofactor peptide," <i>Biochemistry.</i> 36(25):7890-7897.
	326.	Briggs et al. (1996). "Interferon-alpha in hepatitis C. Dosage, costs and benefits." <i>Pharmacoeconomics.</i> 10(3):205-209.
	327.	Di Bisceglie, A. M. and Bacon, B. R. (1999). "Some 1.8 Percent of the U.S. Adult Population are Infected with the Hepatitis C Virus, Most Without Knowing It," <i>Scientific American</i> 10:80-85.
	328.	Bodey, G.P. (1996). "Antimicrobial agents: bacterial/fungal," <i>Curr. Opin. Infect. Dis.</i> 9(6):365-366.
	329.	Bonino et al. (1988). "Delta and non-A, non-B hepatitis viruses." <i>Eur J Clin Microbiol Infect Dis.</i> 7(3):327-336.
	330.	Bonkovsky HL. (1997). "Therapy of hepatitis C: other options." <i>Hepatology.</i> 26(3 Suppl 1):143S-151S.
	331.	Borowski et al. (1997). "Nonstructural protein 3 of hepatitis C virus blocks the distribution of the free catalytic subunit of cyclic AMP-dependent protein kinase." <i>J Virol.</i> 71(4):2838-2843.
	332.	Borowski P et al. (1996). "Non-structural protein 3 of hepatitis C virus inhibits phosphorylation mediated by cAMP-dependent protein kinase." <i>Eur J Biochem.</i> 237(3):611-618.
	333.	Bouffard et al. (1995). "An in vitro assay for hepatitis C virus NS3 serine proteinase." <i>Virology.</i> 209(1):52-59.
	334.	Bradley et al. (1974). "Viroids and viral hepatitis in marmosets." <i>Nature.</i> 248(444):172.

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	335.	Bradley et al. (1979). "Experimental infection of chimpanzees with antihemophilic (factor VIII) materials: recovery of virus-like particles associated with non-A, non-B hepatitis." <i>J Med Virol.</i> 3(4):253-269.
	336.	Bradley et al. (1980). "Non-A/non-B hepatitis in experimentally infected chimpanzees: cross-challenge and electron microscopic studies." <i>J Med Virol.</i> 6(3):185-201.
	337.	Bradley et al. (1983). "Non-A, non-B hepatitis in chimpanzees: interference with acute hepatitis A virus and chronic hepatitis B virus infections." <i>J Med Virol.</i> 11(3):207-213.
	338.	Bradley et al. (1983). "Posttransfusion non-A, non-B hepatitis: physicochemical properties of two distinct agents." <i>J Infect Dis.</i> 148(2):254-265.
	339.	Bradley DW. (1984). "Transmission, etiology, and pathogenesis of viral hepatitis non-A non-B in non-human primates," <i>Adv. Hepatitis Res.</i> pp. 268-280.
	340.	Bradley (1985) "The agents of Non-A, Non-B viral hepatitis," <i>J. Virol. Methods</i> 10:307-319.
	341.	Bradley et al. (1985). "Posttransfusion non-A, non-B hepatitis in chimpanzees. Physicochemical evidence that the tubule-forming agent is a small, enveloped virus." <i>Gastroenterology.</i> 88(3):773-779.
	342.	Bradley et al. (1987). "Enterically transmitted non-A, non-B hepatitis: serial passage of disease in cynomolgus macaques and tamarins and recovery of disease-associated 27- to 34-nm viruslike particles." <i>Proc Natl Acad Sci U S A.</i> 84(17):6277-6281.
	343.	Bradley et al. (March 1988). "Aetiological agent of enterically transmitted non-A, non-B hepatitis." <i>J Gen Virol.</i> 69 (Pt 3):731-738.
	344.	Bradley DW (1990). "Enterically-transmitted non-A, non-B hepatitis." <i>Br Med Bull.</i> 46(2):442-461.
	345.	Bradley DW (1990). "Hepatitis non-A, non-B viruses become identified as hepatitis C and E viruses." <i>Prog Med Virol.</i> 37:101-135.
	346.	Bradley et al. (1990). "Parenterally transmitted non-A, non-B hepatitis: virus-specific antibody response patterns in hepatitis C virus-infected chimpanzees." <i>Gastroenterology.</i> 99(4):1054-1060.
	347.	Bradley et al. (1991). "Non-A, non-B hepatitis: toward the discovery of hepatitis C and E viruses." <i>Semin Liver Dis.</i> 11(2):128-146.
	348.	Brahm et al. (1988). "Lack of reverse transcriptase activity in serum in sporadic post-transfusional and presumed epidemic or water-borne forms of severe non-A, non-B hepatitis." <i>J Med Virol.</i> 25(2):157-164.
	349.	Brechot et al. (1993). "Genetic variation of the hepatitis C virus (HCV) genome: random events or a clinically relevant issue?" <i>J Hepatol.</i> 17(3):265-268.

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	350.	Bresters, D. et al. (1992). "Disappearance of hepatitis C virus RNA in plasma during interferon alpha-2B treatment in hemophilia patients," <i>Scand. J. Gastroenterol.</i> 27(3):166-168.
	351.	Briand et al. (1997). "Regulation of trypsin activity by Cu ²⁺ chelation of the substrate binding site." <i>Protein Eng.</i> 10(5):551-560.
	352.	Brinnen et al. (1996). "X-ray structures of a designed binding site in trypsin show metal-dependent geometry." <i>Biochemistry.</i> 35(19):5999-6009.
	353.	Brinton (1986). "Chapter 11: Replication of Flaviviruses," in <u>The Togaviridae and Flaviviridae</u> , S. Schlesinger and M.J. Schlesinger, eds., Plenum Press: New York, pp. 327-374.
	354.	Brotman et al. (1985). "Non-A, non-B hepatitis: is there more than a single blood-borne strain?" <i>J Infect Dis.</i> 151(4):618-625.
	355.	Brown et al. (1995). "Hepatitis C: the structure and biology of the virus and diagnostic tests." <i>J Infect.</i> 30(2):95-101.
	356.	Brown KD (1995). "Novel Emerging Therapeutics Target the Hepatitis C Virus," <i>Genetic Engineering News</i> 15(18):1, 16, 35.
	357.	Butkiewicz et al. (1996). "Enhancement of hepatitis C virus NS3 proteinase activity by association with NS4A-specific synthetic peptides: identification of sequence and critical residues of NS4A for the cofactor activity." <i>Virology.</i> 225(2):328-338.
	358.	Cahour et al. (1992). "Cleavage of the dengue virus polyprotein at the NS3/NS4A and NS4B/NS5 junctions is mediated by viral protease NS2B-NS3, whereas NS4A/NS4B may be processed by a cellular protease." <i>J Virol.</i> 66(3):1535-1542.
	359.	Carrington et al. (1987). "Small nuclear inclusion protein encoded by a plant potyvirus genome is a protease," <i>J. Virol.</i> 61(8):2540-2548.
	360.	Castle et al. (1985). "Sequence analysis of the viral core protein and the membrane-associated proteins V1 and NV2 of the flavivirus West Nile Virus and of the genome sequences for these proteins," <i>Virology</i> 145:227-236.
	361.	Cerino et al. (1991). "Identification of an immunodominant B cell epitope on the hepatitis C virus nonstructural region defined by human monoclonal antibodies." <i>J Immunol.</i> 147(8):2692-2696.
	362.	Cerretani et al. (1999). "A high-throughput radiometric assay for hepatitis C virus NS3 protease." <i>Anal Biochem.</i> 266(2):192-197.
	363.	Cha et al. (1991). "Use of a signature nucleotide sequence of hepatitis C virus for detection of viral RNA in human serum and plasma." <i>J Clin Microbiol.</i> 29(11):2528-34.
	364.	Chakrabarti et al. (1985). "Vaccinia virus expression vector: coexpression of beta-galactosidase provides visual screening of recombinant virus plaques." <i>Mol Cell Biol.</i> 5(12):3403-3409.

EXAMINER:	DATE CONSIDERED:
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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS (including author, title, date, etc.)
	365.	Chambers et al. (1991). "Processing of the yellow fever virus nonstructural polyprotein: a catalytically active NS3 proteinase domain and NS2B are required for cleavages at dibasic sites." <i>J Virol.</i> 65(11):6042-6050.
	366.	Chang et al. (1994). "Long term clinical and virologic outcome of primary hepatitis C virus infection in children: a prospective study." <i>Pediatr Infect Dis J.</i> 13(9):769-73.
	367.	Chayama, K. et al. (1994). "Nucleotide Sequence of Hepatitis C Virus (Type 3B) Isolated From a Japanese Patient with Chronic Hepatitis C," <i>Journal of General Virology</i> 75:3623-3628.
	368.	Chayama, K. et al. (1997). "Pretreatment Virus Load and Multiple Amino Acid Substitutions in the Interferon Sensitivity-Determining Region Predict the Outcome of Interferon Treatment in Patients with Chronic Genotype 1B Hepatitis C Virus Infection," <i>Hepatology</i> 25:745-749.
	369.	Chemello et al. (1993). "Predictors of response to interferon in chronic hepatitis C," <u>Symposium on advances in HCV diagnosis and treatment</u> , Barcelona, Spain, p57-58.
	370.	Chemello et al. (1995). "Randomized trial comparing three different regimens of alpha-2a-interferon in chronic hepatitis C," <i>Hepatology.</i> 22(3):700-706.
	371.	Chen et al. (1990). "Hepatitis C virus infection in an area hyperendemic for hepatitis B and chronic liver disease: the Taiwan experience." <i>J Infect Dis.</i> 162(4):817-822.
	373.	Chircu et al. (1980). "Post-transfusion hepatitis: antigen/antibody systems correlated with non-A, non-B hepatitis." <i>J Med Virol.</i> 6(2):147-51.
	374.	Cho et al. (1995). "HCV-Sindbis hybrid viruses whose replication depends on the serine protease activity of hepatitis C virus," 3rd International Meeting on Hepatitis C Virus and Related Viruses, Australia, one page.
	375.	Cho et al. (1997). "Construction of hepatitis C-SIN virus recombinants with replicative dependency on hepatitis C virus serine protease activity." <i>J Virol Methods.</i> 65(2):201-7.
	376.	Cho et al. (1998). "In vivo assay for hepatitis C viral serine protease activity using a secreted protein." <i>J Virol Methods.</i> 72(1):109-15.
	377.	Choo et al. (1992). "Identification of the major, parenteral non-A, non-B hepatitis agent (hepatitis C virus) using a recombinant cDNA approach." <i>Semin Liver Dis.</i> 12(3):279-288.
	378.	Choo et al. (1994). "Vaccination of chimpanzees against infection by the hepatitis C virus." <i>Proc Natl Acad Sci U S A.</i> 91(4):1294-1298.
	379.	Chu et al. (1996). "Structure of SCH 68631: a new hepatitis C virus proteinase inhibitor from <i>Streptomyces</i> sp." <i>Tetra Lett.</i> 37(40):7229-7232.
	380.	Cianci et al. (1996). "Identification of N-hydroxamic acid and N-hydroxyimide compounds that inhibit the influenza virus polymerase," <i>Antiviral Chem. Chemotherap.</i> 7(6):353-360.

EXAMINER:	DATE CONSIDERED:
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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	381.	Clarke B.E. (1995). "Approaches to the development of novel inhibitors of hepatitis C virus replication." <i>J Viral Hepat.</i> 2(1):1-8.
	382.	Clarke, B. (1997). "Molecular Virology of Hepatitis C Virus," <i>J. Gen. Virol.</i> 78:2397-2410.
	383.	Clarke, B. and Slater, M. J. (1997). "Developments in Hepatitis C During 1996-1997," <i>Exp. Opin. Ther. Patents</i> 7(9):979-987.
	384.	Cleaves (1985). "Identification of Dengue Type 2 virus-specific high molecular weight proteins in virus-infected BHK cells," <i>J. Gen. Virol.</i> 66:2767-2771.
	385.	Clewell et al. (1969). "Supercoiled circular DNA-protein complex in Escherichia coli: purification and induced conversion to an open circular DNA form." <i>Proc Natl Acad Sci U S A.</i> 62(4):1159-1166.
	386.	Clewell DB (1972). "Nature of Col E 1 plasmid replication in Escherichia coli in the presence of the chloramphenicol." <i>J Bacteriol.</i> 110(2):667-676.
	387.	Cohen et al. (1972). "Nonchromosomal antibiotic resistance in bacteria: genetic transformation of Escherichia coli by R-factor DNA." <i>Proc Natl Acad Sci U S A.</i> 69(8):2110-2114.
	388.	Cohen, (1999). "The scientific challenge of Hepatitis C," <i>Science</i> , 285:26-30.
	389.	Collett et al. (1989). "Recent advances in pestivirus research," <i>J. Gen. Virol.</i> 70:253-266.
	390.	Colombo et al. (1989). "Prevalence of antibodies to hepatitis C virus in Italian patients with hepatocellular carcinoma." <i>Lancet.</i> 2(8670):1006-1008.
	391.	Cooreman, M. P. and Schoondermark-Van De Ven E. M. E. (1996). "Hepatitis C. Virus: biological and Clinical Consequences of Genetic Heterogeneity," <i>Scand. J. Gastroenterol.</i> 218:106-115.
	392.	Corapi et al., (August 1988). "Monoclonal antibody analyses of cytopathic and noncytopathic viruses from fatal bovine viral diarrhea virus infections," <i>J. Virol.</i> 62(8):2823-2827.
	393.	Coursaget et al. (1979). "Virus-like particles associated with non-A, non-B hepatitis." <i>Lancet.</i> 2(8133):92-93.
	394.	Christensen et al. (1995). "Hepatitis C update," <i>Women's Health Statewide.</i> 5(2):1555-1564.
	395.	Crute et al. (1995). "Inhibition of herpes simplex virus type 1 helicase-primase by (dichloroanilino)purines and -pyrimidines." <i>J Med Chem.</i> 38(10):1820-1825.
	396.	Cuypers et al. (1991). "Analysis of genomic variability of hepatitis C virus." <i>J Hepatol.</i> 13 Suppl 4:S15-S19.
	397.	Cuypers et al. (1993). "HCV-RNA detection by cDNA-PCR application in hepatitis C virus diagnostics," Symposium on Advances in HCV Diagnosis and Treatment, Barcelona, Spain, p. 15-16.
	398.	Dasmahapatra et al. (1992). "A genetic system for studying the activity of a proteolytic enzyme." <i>Proc Natl Acad Sci U S A.</i> 89(9):4159-4162.

EXAMINER:	DATE CONSIDERED:
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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS (including author, title, date, etc.)
	399.	Dasmahapatra, (August 19-20, 1997). "Hepatitis C virus NS3/4A proteinase as a target for antiviral drug development," Abstract, p. 5 in <i>NMHCC's Second International Conferences: Protease Inhibitors in Infectious Diseases</i> , Aug. 18-19, 1997, Protease Inhibitors in Inflammation.
	400.	Davis et al. (1994). "Assessing health-related quality of life in chronic hepatitis C using the Sickness Impact Profile." <i>Clin Ther.</i> 16(2):334-343.
	401.	DeFrancesco et al. "The NS3 serine proteinase of hepatitis C Virus; from homology modelling to the three-dimensional structure," presented at meeting held on March 25-31, 1996, at Keystone Co. on <i>Proteolytic Enzymes and Inhibitors in Biology and Medicine (E5)</i> , Abstract 206, page 35.
	402.	DeFrancesco et al. "The NS3 serine proteinase of hepatitis C Virus; from homology modelling to the three-dimensional structure" <i>4th International Meeting on Hepatitis C Virus and Related Viruses, Molecular Virology and Pathogenesis, held on March 6-10, 1997, Kyoto, Japan</i> , one page.
	403.	Devereux, J. et al. (1984). "A Comprehensive Set of Sequence Analysis Programs for the VAX," <i>Nucleic Acids Research</i> 12(1):387-395.
	404.	Di Bisceglie et al. (1991). "The role of chronic viral hepatitis in hepatocellular carcinoma in the United States." <i>Am J Gastroenterol.</i> 86(3):335-338.
	405.	Di Bisceglie AM (1998). "Hepatitis C." <i>Lancet.</i> 351(9099):351-355.
	406.	Duplicate of Reference No. 327.
	407.	Dienes et al. (1986). "Hepatitis A-like non-A, non-B hepatitis: light and electron microscopic observations of three cases." <i>Virchows Arch A [Pathol Anat]</i> 409(5):657-667.
	408.	Dienstag, J. L. (1997). "The Natural History of Chronic Hepatitis C and What We Should Do About It," <i>Gastroenterology</i> 112(2):651-655.
	409.	Diepolder, H. M. et al. (1997). "Immunodominant CD4+ T-Cell Epitope within Nonstructural Protein 3 in Acute Hepatitis C Virus Infection," <i>Journal of Virology</i> 71(8):6011-6019.
	410.	Dimasi et al. (1997). "Characterization of engineered hepatitis C virus NS3 protease inhibitors affinity selected from human pancreatic secretory trypsin inhibitor and minibody repertoires." <i>J Virol.</i> 71(10):7461-7469.
	411.	Doherty et al. (1993). "Chemical, biochemical, pharmacokinetic, and biological properties of L-680,833: a potent, orally active monocyclic beta-lactam inhibitor of human polymorphonuclear leukocyte elastase." <i>Proc Natl Acad Sci U S A.</i> 90(18):8727-8731.
	412.	Dolle et al. (1996). "First examples of peptidomimetic inhibitors of interleukin-1 beta converting enzyme." <i>J Med Chem.</i> 39(13):2438-2440.

EXAMINER:	DATE CONSIDERED:
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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	413.	Domingo et al. (1985). "The quasispecies (extremely heterogeneous) nature of viral RNA genome populations: Biological relevance-a review," <i>Gene</i> 40:1-8.
	414.	Donis et al. (1987). "Differences in virus- induced polypeptides in cells infected by cytopathic and noncytopathic biotypes of bovine virus diarrhea-mucosal disease virus," <i>Viol.</i> 158:168-173.
	415.	Donis et al. (1988). "Neutralizing monoclonal antibodies to bovine viral diarrhoea virus bind to the 56K to 58K glycoprotein," <i>J. Gen. Virol.</i> 69:77-86.
	416.	Doronin et al. (1993). "Expression of the gene encoding secreted placental alkaline phosphatase (SEAP) by a nondefective adenovirus vector." <i>Gene</i> . 126(2):247-250.
	417.	Dougherty WG (Dec 1993). "Expression of virus-encoded proteinases: functional and structural similarities with cellular enzymes." <i>Microbiol Rev.</i> ; 57(4):781-822.
	418.	Dougherty et al. (1989). "Characterization of the catalytic residues of the tobacco etch virus 49-kDa proteinase," <i>Viol.</i> 172(1):302-310.
	419.	Dragovich, P. S. et al. (1998). "Structure-Based Design, Synthesis, and Biological Evaluation of Irreversible Human Rhinovirus 3C Protease Inhibitors. 2. Peptide Structure-Activity Studies," <i>J. Med. Chem.</i> 41:2819-2834.
	420.	Drews, J. (1996). "Genomic Sciences and the medicine of Tomorrow," <i>Nature Biotechnology</i> 14:1515-1518.
	421.	D'Souza et al. (1994) "Functional interaction between the two HCV viral coded proteases and characterization of purified HCV NS3 protein produced in bacteria," <i>Abstract submitted for the 2nd International Meeting on Hepatitis C and Related Viruses, held on July 31-August 5, 1994, San Diego, California</i> , page 9.
	422.	D'Souza, E. D. A. et al. (1994). "Analysis of NS3-Mediated Processing of the Hepatitis C Virus Non-Structural Region In Vitro," <i>Journal of General Virology</i> 75:3469-3476.
	423.	D'Souza et al. (1995). "In vitro cleavage of hepatitis C virus polyprotein substrates by purified recombinant NS3 protease." <i>J Gen Virol.</i> 76 (Pt 7):1729-1736.
	424.	Dubensky et al. (1996). "Sindbis virus DNA-based expression vectors: utility for in vitro and in vivo gene transfer." <i>J Virol.</i> 70(1):508-519.
	425.	Dubuisson, J. et al. (1994). "Formation and Intracellular Localization of Hepatitis C Virus Envelope Glycoprotein Complexes Expressed by Recombinant Vaccinia and Sindbis Viruses," <i>Journal of Virology</i> 68(10):6147-6160.
	426.	Dubuisson, J. et al. (1996). "Hepatitis C Virus Glycoprotein Folding: Disulfide Bond Formation and Association with Calnexin," <i>Journal of Virology</i> 70(2):778-786.

EXAMINER:	DATE CONSIDERED:
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Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	427.	Duermeyer et al. (1983). "An enzyme-linked immunosorbent assay for an antigen related to non-A, non-B hepatitis and its antibody: partial characterization of the antigen and chimpanzee transmission." <i>J Med Virol.</i> 11(1):11-21.
	428.	Dufour et al. (1995). "Peptide aldehydes and nitriles as transition state analog inhibitors of cysteine proteases." <i>Biochemistry.</i> 34(28):9136-9143.
	429.	Dunn et al., (1989) "Kinetic studies of synthetic cleavage site peptides by poliovirus 3C and HIV-1 and HIV-2 proteinases" in <u>Viral Proteinases as Targets for Chemotherapy</u> , CHS Press, pp. 231-235.
	430.	Dusheiko, G. M. and Rizzetto, M. eds. (1992). "The Management of Chronic Hepatitis C," Synopses in <i>Viral Hepatitis</i> pp. 3-15.
	431.	Dusheiko et al. (1995). "Treatment of chronic type B and C hepatitis with interferon alfa: an economic appraisal." <i>Hepatology.</i> 22(6):1863-1873.
	432.	Dusheiko et al. (1996). "A rational approach to the management of hepatitis C infection." <i>BMJ.</i> 312(7027):357-64.
	433.	Eckart et al. (1993). "The hepatitis C virus encodes a serine protease involved in processing of the putative nonstructural proteins from the viral polyprotein precursor," <i>Biochem Biophys Res Commun.</i> 192(2):399-406.
	434.	Enomoto et al. (1990). "There are two major types of hepatitis C virus in Japan," <i>Biochem Biophys Res Commun.</i> 170(3):1021-1025.
	435.	Enomoto et al. (1995). "Comparison of full-length sequences of interferon-sensitive and resistant hepatitis C virus 1b. Sensitivity to interferon is conferred by amino acid substitutions in the NS5A region." <i>J Clin Invest.</i> 96(1):224-230.
	436.	Enomoto et al. (1995). "Hepatitis C virus quasispecies populations during chronic hepatitis C infection." <i>Trends Microbiol.</i> 3(11):445-447.
	437.	Everhart et al. (1990). "Risk for non-A, non-B (type C) hepatitis through sexual or household contact with chronic carriers." <i>Ann Intern Med.</i> 112(7):544-545.
	438.	Ezzell C., (May 1988). "Candidate cause identified of non-A, non-B hepatitis." <i>Nature.</i> 333(6170):195.
	439.	Failla et al. (1994). "Both NS3 and NS4A are required for proteolytic processing of hepatitis C virus nonstructural proteins." <i>J Virol.</i> 68(6):3753-3760.
	440.	Failla et al. (1995). "An amino-terminal domain of the hepatitis C virus NS3 protease is essential for interaction with NS4A." <i>J Virol.</i> 69(3):1769-1777.
	441.	Failla et al. (1996). "Redesigning the substrate specificity of the hepatitis C virus NS3 protease." <i>Fold Des.</i> 1(1):35-42.

EXAMINER:	DATE CONSIDERED:
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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS (including author, title, date, etc.)
	442.	Falgout et al. (1989). "Proper processing of Dengue virus nonstructural glycoprotein NS1 requires the N-terminal hydrophobic signal sequence and the downstream nonstructural protein NS2a," <i>J. Virology</i> 63:1852-1860.
	443.	Falgout et al. (1991). "Both nonstructural proteins NS2B and NS3 are required for the proteolytic processing of dengue virus nonstructural proteins." <i>J Virol.</i> 65(5):2467-2475.
	444.	Falgout et al. (1993). "Deletion analysis of dengue virus type 4 nonstructural protein NS2B: identification of a domain required for NS2B-NS3 protease activity." <i>J Virol.</i> 67(4):2034-42.
	445.	Farci et al. (1991). "A long-term study of hepatitis C virus replication in non-A, non-B hepatitis." <i>N Engl J Med.</i> 325(2):98-104.
	446.	Farci et al. (1992). "The natural history of infection with hepatitis C virus (HCV) in chimpanzees: comparison of serologic responses measured with first- and second-generation assays and relationship to HCV viremia." <i>J Infect Dis.</i> 165(6):1006-1011.
	447.	Farci, P. et al. (1994). "Prevention of Hepatitis C Virus Infection in Chimpanzees After Antibody-Mediated In Vitro Neutralization," <i>Proc. Natl. Acad. Sci. USA</i> 91:7792-7796.
	448.	Feinstone et al. (April 10, 1975). "Transfusion-associated hepatitis not due to viral hepatitis type A or B," <i>New Eng. J. Med.</i> 292(15):767-770.
	449.	Feinstone et al. (1978). "Non-A, non-B hepatitis." <i>Annu Rev Med.</i> 29:359-366.
	450.	Feinstone et al. (1981). "Non-A, non-B hepatitis in chimpanzees and marmosets." <i>J Infect Dis.</i> 144(6):588-598.
	451.	Feinstone et al. (1983). "Inactivation of hepatitis B virus and non-A, non-B hepatitis by chloroform." <i>Infect Immun.</i> 41(2):816-821.
	452.	Feinstone S.M. (1984). "Non-A, maybe-B hepatitis." <i>New Engl J Med.</i> 311(3):185-189.
	453.	Fields et al. (1983). "Unrelatedness of factor VIII-derived non-A/non-B hepatitis and hepatitis B virus." <i>J Med Virol.</i> 11(1):59-65.
	454.	Filocamo et al. (1997). "Chimeric Sindbis viruses dependent on the NS3 protease of hepatitis C virus." <i>J Virol.</i> 71(2):1417-1427.
	455.	Filocamo, G. et al. (1999). "Selection of Functional Variants of the NS3-NS4A Protease of Hepatitis C Virus by Using Chimeric Sindbis Viruses," <i>Journal of Virology</i> 73(1):561-575.
	456.	Fipaldini, C. et al. (1999). "Expression of Hepatitis C Virus cDNA in Human Hepatoma Cell Line Mediated by a Hybrid Baculovirus-HCV Vector," <i>Virology</i> 255:302-311.

EXAMINER:	DATE CONSIDERED:
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Examiner Initials	Ref. No.	OTHER DOCUMENTS (including author, title, date, etc.)
	457.	Fukuizumi, K. et al. (1997). "Hepatitis C Virus Seroconversion Rate in a Hyperendemic Area of HCV in Japan: A prospective Study," <i>Scand. J. Infect. Dis.</i> 29:345-347.
	458.	Fukushi et al. (1996). "A new NMR chiral derivatizing reagent for determining the absolute configurations of carboxylic acids," <i>Tetra Letters.</i> 37(27):4737-4740.
	459.	Gallinari, P. et al. (1998). "Multiple Enzymatic Activities Associated with Recombinant NS3 Protein of Hepatitis C Virus," <i>Journal of Virology</i> 72(8):6758-6769.
	460.	Gallinari, P. et al. (1999). "Modulation of Hepatitis C Virus NS3 Protease and Helicase Activities Through the Interaction with NS4A," <i>Biochemistry</i> 38:5620-5632.
	461.	Gangarosa et al. (1998). "Impact of anti-vaccine movements on pertussis control: the untold story," <i>Lancet.</i> 351(9099):356-361.
	462.	Genesca, J. (1993). "Interferon treatment in acute hepatitis C," <i>Symposium on Advances in HCV Diagnosis and Treatment</i> , Barcelona, Spain, p. 53-54.
	463.	Gerety, R.J. "Chapter 13: Particles and antigen-antibody systems associated with non-A, non-B hepatitis and nonspecific tests to detect virus carriers," <i>bookmark, non-A, non-B Hepatitis</i> , pp. 207-228.
	464.	Geysen et al. (1988). "Cognitive features of continuous antigenic determinants," <i>J Mol Recognit.</i> 1(1):32-41.
	465.	Giam C-Z et al. (Oct 1988). "In vivo and in vitro autoprocessing of human immunodeficiency virus protease expressed in Escherichia coli," <i>J Biol Chem.</i> 263(29):14617-14620.
	466.	Gibbs et al., "Substrate specificity of HCV NS3 protease analyzed with modified peptide substrates," <i>4th International Meeting on Hepatitis C Virus and Related Viruses, Molecular Virology and Pathogenesis, held on March 6-10, 1997, Kyoto, Japan</i> , page 103.
	467.	Gibbs, C. S. and Tsiang, M. (1998). "Targeting the NS3 Protease of Hepatitis C Virus," <i>International Antiviral News</i> 6:2-4.
	468.	Gitnick et al. (1995). "Hepatitis C in 1994," <i>Scand J Gastroenterol Suppl.</i> 208:147-148.
	469.	Gorbalenya et al. manuscript entitled "Hepatitis C virus encodes a putative serine protease related to the proteases of flavi- and pestiviruses," duplicate part of Ref. 959, Ex. 520 at 1/25/00 deposition of A. Gorbalenya.
	470.	Gorbalenya et al. (August 1988). "Birnavirus RNA polymerase is related to polymerases of positive strand RNA viruses," <i>Nucl. Acids Res.</i> 16:7735.
	471.	Gorbalenya et al. (1989). "An NTP-binding motif is the most conserved sequence in a highly diverged monophyletic group of proteins involved in positive strand RNA viral replication," <i>J. Mol. Evol.</i> 28:256-268.
	472.	Gordeev et al. (1996). "Approaches to combinatorial synthesis of heterocycles: solid phase synthesis of pyridines and pyrido [2, 3-d] pyrimides," <i>Tetra Letters.</i> 37(27):4643-4646.

EXAMINER:	DATE CONSIDERED:
EXAMINER: Initial if citation considered, whether or not the citation conforms with MPEP 609. Draw a line through the citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.	

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Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	473.	Grakoui et al. (1993). "A second hepatitis C virus-encoded proteinase." <i>Proc. Natl. Acad. Sci. U S A.</i> 90(22):10583-10587.
	474.	Grakoui et al. (1993). "Characterization of the hepatitis C virus-encoded serine proteinase: determination of proteinase-dependent polyprotein cleavage sites." <i>J Virol.</i> 67(5):2832-2843.
	475.	Grakoui et al. (1993). "Expression and identification of hepatitis C virus polyprotein cleavage products." <i>J Virol.</i> 67(3):1385-1395.
	476.	Groutas et al. (1997). "Structure-based design of a general class of mechanism-based inhibitors of the serine proteinases employing a novel amino acid-derived heterocyclic scaffold." <i>Biochemistry.</i> 36(16):4739-4750.
	477.	Gwack et al. (1995). "NTPase activity of hepatitis C virus NS3 protein expressed in insect cells," <i>Mol. Cell.</i> 5(2):171-175.
	478.	Gwack, Y. et al. (1996). "Characterization of RNA Binding Activity and RNA Helicase Activity of the Hepatitis C Virus NS3 Protein," <i>Biochemical and Biophysical Research Communications</i> 225:654-659.
	479.	Gwack, Y. et al. (1997). "DNA Helicase Activity of the Hepatitis C Virus Nonstructural Protein 3," <i>Eur. J. Biochem.</i> 250:47-54.
	480.	Hagedorn et al. (1995). "Further characterization of a cell culture system that propagates hepatitis C virus," 3rd International Meeting on Hepatitis C and Related Viruses, Australia, one page.
	481.	Hahm et al. (1995). "NS3-4A of hepatitis C virus is a chymotrypsin-like protease." <i>J Virol.</i> 69(4):2534-2539.
	482.	Hahm et al. (1996). "Generation of a novel poliovirus with a requirement of hepatitis C virus protease NS3 activity." <i>Virology.</i> 226(2):318-326.
	483.	Hakim AA (1986). "Isolation and functional property of mRNA coding for hepatitis A, B, and non A-non B viral particles from human sera." <i>Naturwissenschaften.</i> 73(1):45-47.
	484.	Hall et al. (1995). "Activation of the herpes simplex virus type 1 protease." <i>J Biol Chem.</i> 270(39):22697-22700.
	485.	Halstead (1988). "Pathogenesis of Dengue: Challenges to Molecular Biology," <i>Science</i> 239:476-481.
	486.	Hamatake et al. (1996). "Establishment of an in vitro assay to characterize hepatitis C virus NS3-4A protease trans-processing activity." <i>Intervirology.</i> 39(4):249-258.
	487.	Hämmerle, T. et al. (1991). "Site-directed mutagenesis of the putative catalytic triad of poliovirus and proteinase," <i>J. Biol. Chem.</i> 266(9):5412-5416.
	488.	Han et al. (1994) "Roles of hepatitis C virus-encoded protease NS3 and other nonstructural proteins on polyprotein processing," <i>Abstract submitted for the 2nd International Meeting on Hepatitis C and Related Viruses, held on July 31-August 5, 1994, San Diego, California, page 19.</i>

EXAMINER:	DATE CONSIDERED:
EXAMINER: Initial if citation considered, whether or not the citation conforms with MPEP 609. Draw a line through the citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.	

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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	489.	Han et al. (1988). "Isolation of intact mRNA and construction of full-length cDNA," <i>Genetic Eng. Principles and Methods</i> 10:195-219.
	490.	Han et al. (1991). "Characterization of the terminal regions of hepatitis C viral RNA: identification of conserved sequences in the 5' untranslated region and poly(A) tails at the 3' end," <i>Proc. Natl. Acad. Sci. U S A.</i> 88(5):1711-1715.
	491.	Han et al. (July 1992). "Group specific sequences and conserved secondary structures at the 3' end of HCV genome and its implication for viral replication." <i>Nucleic Acids Res.</i> 20(13):3520.
	492.	Han et al. (1995). "Identification of the protease domain in NS3 of hepatitis C virus." <i>J Gen Virol.</i> 76 (Pt 4):985-993.
	493.	Harada et al. (1995). "Characterization of an established human hepatoma cell line constitutively expressing non-structural proteins of hepatitis C virus by transfection of viral cDNA." <i>J Gen Virol.</i> 76 (Pt 5):1215-1221.
	494.	Harbeson et al. (1994). "Stereospecific synthesis of peptidyl alpha-keto amides as inhibitors of calpain." <i>J Med Chem.</i> 37(18):2918-2929.
	495.	Harrison SC (1996). "Peptide-surface association: the case of PDZ and PTB domains." <i>Cell.</i> 86(3):341-343.
	496.	Haugan, I. R. et al. (1995). "Characterization of the DNA-Binding Activity of HIV-1 Integrase Using a Filter Binding Assay," <i>Biochemical and Biophysical Research Communications</i> 217(3):802-810.
	497.	Heilek et al. (1997). "A point mutation abolishes the helicase but not the nucleoside triphosphatase activity of hepatitis C virus NS3 protein." <i>J Virol.</i> 71(8):6264-6266.
	498.	Hellings JA (1986). "Non-A, non-B hepatitis: an update." <i>Vox Sang.</i> 51 Suppl 1:63-66.
	499.	Herbert et al. (1992). "Biochemical and pharmacological activities of SR 26831, a potent and selective elastase inhibitor." <i>J Pharmacol Exp Ther.</i> 260(2):809-816.
	500.	Herold, J. et al. (1998). "Proteolytic Processing at the Amino Terminus of Human Coronavirus 229E Gene 1-Encoded Polyproteins: Identification of a Papain-Like Proteinase and Its Substrate," <i>Journal of Virology</i> 72(2):910-918.
	501.	Hijikata et al. (1991). "Gene mapping of the putative structural region of the hepatitis C virus genome by in vitro processing analysis." <i>Proc Natl Acad Sci U S A.</i> 88(13):5547-5551.
	502.	Hijikata et al. (1993). "Two distinct proteinase activities required for the processing of a putative nonstructural precursor protein of hepatitis C virus," <i>J. Virol.</i> 67: 4665-4675
	503.	Hijikata et al. (1993). "Proteolytic processing and membrane association of putative nonstructural proteins of hepatitis C virus." <i>Proc Natl Acad Sci U S A.</i> 90(22):10773-10777.

EXAMINER:	DATE CONSIDERED:
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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS (including author, title, date, etc.)
	504.	Hiramatsu et al. (1992). "Immunohistochemical detection of hepatitis C virus-infected hepatocytes in chronic liver disease with monoclonal antibodies to core, envelope and NS3 regions of the hepatitis C virus genome." <i>Hepatology</i> . 16(2):306-311.
	505.	Hirota, M. et al. (1999). "Phosphorylation of Nonstructural 5A Protein of Hepatitis C Virus: HCV Group-Specific Hyperphosphorylation," <i>Virology</i> 257:130-137.
	506.	Hirowatari Y et al. (1993). "Two proteinase activities in HCV polypeptide expressed in insect cells using baculovirus vector." <i>Arch Virol.</i> , 133(3-4):349-356.
	507.	Hirowatari et al. (1995). "A novel method for analysis of viral proteinase activity encoded by hepatitis C virus in cultured cells." <i>Anal Biochem</i> . 225(1):113-120.
	508.	Hirowatari, Y. et al. (1995). "Expression and Processing of Putative Nonstructural Proteins of Hepatitis C Virus in Insect Cells, Using Baculovirus Vector," <i>Virus Research</i> 35:43-61.
	509.	Hofmann et al. (1995). "Efficient gene transfer into human hepatocytes by baculovirus vectors." <i>Proc Natl Acad Sci U S A</i> . 92(22):10099-10103.
	510.	Holland et al. (1982). "Rapid evolution of RNA genomes." <i>Science</i> . 215(4540):1577-1585.
	511.	Hong et al. (1996). "Enzymatic characterization of hepatitis C virus NS3/4A complexes expressed in mammalian cells by using the herpes simplex virus amplicon system." <i>J Virol</i> . 70(7):4261-4268.
	512.	Hoofnagle, J. H. (1997). "Hepatitis C: The Clinical Spectrum of Disease," <i>Hepatology</i> 26(3 Suppl. 1):15S-20S.
	513.	Hotta, H. et al. (1994). "Analysis of the core and E1 envelope region sequences of a novel variant of hepatitis C virus obtained in Indonesia," <i>Arch. Virol.</i> 136:53-62.
	514.	Houghton et al. (1991). "Molecular biology of the hepatitis C viruses: implications for diagnosis, development and control of viral disease." <i>Hepatology</i> . 14(2):381-388.
	515.	Houghton et al. (1994). "Hepatitis C virus: structure, protein products and processing of the polyprotein precursor." <i>Curr Stud Hematol Blood Transfus</i> . (61):1-11.
	516.	Houghton, M. (1996). "Chapter 32: Hepatitis C Viruses," in <i>Fields Virology</i> , eds., Lippincott-Raven Publishers: Philadelphia, 3rd edition, pp. 1035-1051.
	517.	Hwang et al. (1996). "Identification of humoral antigenic determinants in the hepatitis C virus NS3 protein." <i>J Infect Dis</i> . 174(1):173-176.
	518.	Hwang et al. (1997). "Hepatitis C virus NS5B protein is a membrane-associated phosphoprotein with a predominantly perinuclear localization." <i>Virology</i> . 227(2):439-446.

EXAMINER:	DATE CONSIDERED:
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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS (including author, title, date, etc.)
	519.	Iacovacci et al. (1993). "Replication and multiplication of hepatitis C virus genome in human foetal liver cells." <i>Res Virol.</i> 144(4):275-279.
	520.	Ide, Y. et al. (1996). "Characterization of the Nuclear Localization Signal and Subcellular Distribution of Hepatitis C Virus Nonstructural Protein NS5A," <i>Gene</i> 182:203-211.
	521.	Ide, Y. et al. (1997). "Hepatitis C Virus NS5A Protein is Phosphorylated In Vitro by a Stably Bound Protein Kinase from HeLa Cells and by cAMP-Dependent Protein Kinase A-alpha Catalytic Subunit," <i>Gene</i> 201:151-158.
	522.	Iino et al. (1994). "Current state of interferon therapy for chronic hepatitis C." <i>Intervirology.</i> 37(2):87-100.
	523.	Inchauspe G (1991). "Genomic structure of the human prototype strain H of hepatitis C virus: comparison with American and Japanese isolates." <i>Proc Natl Acad Sci U S A.</i> 88(22):10292-10296.
	524.	Ingallinella et al. (1998). "Potent peptide inhibitors of human hepatitis C virus NS3 protease are obtained by optimizing the cleavage products." <i>Biochemistry.</i> 37(25):8906-8914.
	525.	Inoue et al. (1998). "Expression of a hepatitis C virus NS3 protease-NS4A fusion protein in Escherichia coli." <i>Biochem Biophys Res Commun.</i> 245(2):478-482.
	526.	Inudoh, M. et al. (1996). "Antigenicity of Hepatitis C Virus Envelope Proteins Expressed in Chinese Hamster Ovary Cells," <i>Vaccine</i> 14(17/18):1590-1596.
	527.	Ippolito et al. (1995). "Structure-assisted redesign of a protein-zinc-binding site with femtomolar affinity." <i>Proc Natl Acad Sci U S A.</i> 92(11):5017-5021.
	528.	Iwarson, S. (1994). "The Natural Course of Chronic Hepatitis C," <i>FEMS Microbiology Review</i> 14:201-204.
	529.	Iwarson, S. et al. (1995). "Hepatitis C: Natural History of a Unique Infection," <i>CID</i> 20:1361-1370.
	530.	Jackson et al. (1979). "Acute non-A, non-B hepatitis: specific ultrastructural alterations in endoplasmic reticulum of infected hepatocytes." <i>Lancet.</i> 1(8128):1249-1250.
	531.	Jadoul, M. (1995). "Hepatitis C Virus," <i>The Lancet</i> 345:189-191.
	532.	Jansson et al. (1996). "High-level production of uniformly ¹⁵ N- and ¹³ C-enriched fusion proteins in Escherichia coli." <i>J Biomol NMR.</i> 7(2):131-141.
	533.	Jin et al. (1994) "Structural and functional studies of the hepatitis C virus NS3 proteins produced in <i>E. coli</i> ," <i>Abstract submitted for the 2nd International Meeting on Hepatitis C and Related Viruses, held on July 31-August 5, 1994, San Diego, California, page 4.</i>
	534.	Jin et al. (1995). "Use of alpha-N,N-bis[carboxymethyl]lysine-modified peroxidase in immunoassays," <i>Anal Biochem.</i> 229(1):54-60.

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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	535.	Jin, L. and Peterson, D.L. (1995). "Expression, Isolation, and Characterization of the Hepatitis C Virus ATPase/RNA Helicase," <i>Arch. Biochem. Biophys.</i> 323(1):47-53.
	536.	Johannes L (1996). "Biotech Firms Find Structure of Protein for Hepatitis C," <i>Wall Street Journal</i> , p.B3 (Oct. 18, 1996).
	537.	Johnson, G. et al. (1992). "β-Proline Analogues as Agonists at the Strychnine-Sensitive Glycine Receptor," <i>J. Med. Chem.</i> 35:233-241.
	538.	Jung, M.C. et al. (1994). "T Cell Recognition of Hepatitis B and C Viral Antigens," <i>Eur. J. Clin. Invest.</i> 24:641-650.
	539.	Kadare et al. (1997). "Virus-encoded RNA helicases." <i>J Virol.</i> 71(4):2583-2590.
	540.	Kakiuchi et al. (1995). "Bacterial expression and analysis of cleavage activity of HCV serine proteinase using recombinant and synthetic substrate." <i>Biochem Biophys Res Commun.</i> 210(3):1059-1065.
	541.	Kakiuchi N et al. (1997). "Cleavage activity of hepatitis C virus serine proteinase." <i>J Biochem (Tokyo)</i> . 1997 Oct;122(4):749-755.
	542.	Kakiuchi et al. (1998). "Non-peptide inhibitors of HCV serine proteinase." <i>FEBS Lett.</i> 421(3):217-220.
	543.	Kakiuchi, N. et al. (1999). "A High Throughput Assay of the Hepatitis C Virus Nonstructural Protein 3 Serine Proteinase," <i>J. Virol. Meth.</i> 80:77-84.
	544.	Kamer et al. (1984). "Primary structural comparison of RNA-dependent polymerases from plant, animal and bacterial viruses," <i>Nucl. Acids Res.</i> 12(18):7269-7282.
	545.	Kaneko, T. et al. (1994). "Production of Two Phosphoproteins from the NS5A Region of the Hepatitis Viral Genome," <i>Biochem. Biophys. Res. Commun.</i> 205(1):320-326.
	546.	Kang, L.W. et al. (1998). "Crystallization and Preliminary X-Ray Crystallographic Analysis of the Helicase Domain of Hepatitis C Virus NS3 Protein," <i>Acta. Cryst.</i> D54:121-123.
	547.	Katkov et al. (1991). "Elevated serum alanine aminotransferase levels in blood donors: the contribution of hepatitis C virus." <i>Ann Intern Med.</i> 115(11):882-884.
	548.	Katkov et al. (1991). "Role of hepatitis C virus in non-B chronic liver disease." <i>Arch Intern Med.</i> 151(8):1548-1552.
	549.	Katkov et al. (1995). "Hepatitis vaccines." <i>Gastroenterol Clin North Am.</i> 24(1):147-159.
	550.	Kato et al., (November 1990). "A structural protein encoded by the 5' region of the hepatitis C virus genome efficiently detects viral infection," <i>Rapid Communication, Jpn. J. Cancer. Res.</i> 81:1092-1094.

EXAMINER:	DATE CONSIDERED:
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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS (including author, title, date, etc.)
	551.	Kato et al. (1990). "Molecular cloning of the human hepatitis C virus genome from Japanese patients with non-A, non-B hepatitis." <i>Proc Natl Acad Sci U S A</i> . 87(24):9524-9528.
	552.	Kato et al. (1991). "Molecular structure of the Japanese hepatitis C viral genome." <i>FEBS Lett</i> . 280(2):325-328.
	553.	Kato et al. (1993). "Humoral immune response to hypervariable region 1 of the putative envelope glycoprotein (gp70) of hepatitis C virus." <i>J Virol</i> . 67(7):3923-3930.
	554.	Kato, N. et al. (1994). "Genetic Drift in Hypervariable Region 1 of the Viral Genome in Persistent Hepatitis C virus Infection," <i>J. Virol</i> . 68(8):4776-4784.
	555.	Ke et al. (1997). "Distinguishing the specificities of closely related proteases. Role of P3 in substrate and inhibitor discrimination between tissue-type plasminogen activator and urokinase." <i>J Biol Chem</i> . 272(26):16603-16609.
	556.	Kean, K. et al. (1991) "Analysis of palative active site residues of the poliovirus 3c protease," <i>Virol</i> . 181:609-619.
	557.	Kew et al. (1990). "Hepatitis C virus antibodies in southern African blacks with hepatocellular carcinoma." <i>Lancet</i> . 335(8694):873-874.
	558.	Khan et al. (1996). "Solid phase reductive alkylation of secondary amines," <i>Tetra Letters</i> . 37(27):4819-4822.
	559.	Khudyakov et al. (1995). "Linear B-cell epitopes of the NS3-NS4-NS5 proteins of the hepatitis C virus as modeled with synthetic peptides." <i>Virology</i> . 206(1):666-672.
	560.	Kim et al. (1995). "Crystal structure of HIV-1 protease in complex with VX-478, a potent and orally bioavailable inhibitor of the enzyme," <i>J Amer Chem Soc</i> . 117(3):1181-1182.
	561.	Kim et al. (1995). "C-terminal domain of the hepatitis C virus NS3 protein contains an RNA helicase activity," <i>Biochem Biophys Res Commun</i> . 215(1):160-166.
	562.	Kim et al. (1996). "Crystal structure of the hepatitis C virus NS3 protease domain complexed with a synthetic NS4A cofactor peptide." <i>Cell</i> . 87(2):343-355.
	563.	Kim, D. W. et al. (1997). "Mutational Analysis of the Hepatitis C Virus RNA Helicase," <i>J. Virol</i> . 71(12):9400-9409.
	564.	Kim, D. W. et al. (1997). "Towards Defining a Minimal Functional Domain for NTPase and RNA Helicase Activities of the Hepatitis C Virus NS3 Protein," <i>Virus Res</i> . 49:17-25.
	565.	Kim, J.L. et al. (1998). "Hepatitis C Virus NS3 RNA Helicase Domain with a Bound Oligonucleotide: The Crystal Structure Provides Insights into the Mode of Unwinding," <i>Structure</i> 6(1):89-100.

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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS (including author, title, date, etc.)
	566.	Koch et al. (1997). "Determinants of substrate specificity in the NS3 serine proteinase of the hepatitis C virus." <i>Virology</i> . 237(1):78-88.
	567.	Koch, J.O. et al. (1996). "In Vitro Studies of the Activation of the Hepatitis C Virus NS3 Proteinase by the NS4A Cofactor," <i>Virology</i> 221:54-66.
	568.	Koff et al. (1995). "Economic modeling of treatment in chronic hepatitis B and chronic hepatitis C: promises and limitations." <i>Hepatology</i> . 22(6):1880-1882.
	569.	Koff et al. (1995). "Extrahepatic manifestations of hepatitis C and the association with alcoholic liver disease." <i>Semin Liver Dis.</i> 15(1):101-109.
	570.	Kolykhalov et al. (1994). "Specificity of the hepatitis C virus NS3 serine protease: effects of substitutions at the 3/4A, 4A/4B, 4B/5A, and 5A/5B cleavage sites on polyprotein processing." <i>J Virol.</i> 68(11):7525-7533.
	571.	Komoda et al. (1994). "Substrate requirements of hepatitis C virus serine proteinase for intermolecular polypeptide cleavage in <i>Escherichia coli</i> ." <i>J Virol.</i> 68(11):7351-7357.
	572.	Komoda, Y. et al. (1994). "Processing of Hepatitis C Viral Polyprotein in <i>Escherichia coli</i> ," <i>Gene</i> 145:221-226.
	573.	Koonin et al. (1989). "Evolution of RNA genomes: Does the high mutation rate necessitate high rate of evolution of viral proteins?" <i>J. Mol. Evol.</i> 28:524-527.
	574.	Koonin, E.V. (1989). "Tale of Two Serines," <i>Nature</i> 338:467-468.
	575.	Koonin, E.V. et al. (1992). "Computer-Assisted Assignment of Functional Domains in the Nonstructural Polyprotein of Hepatitis E Virus: Delineation of an Additional Group of Positive-Strand RNA Plant and Animal Viruses," <i>PNAS USA</i> 89:8259-8263.
	576.	Korant et al. (1986). "Viral therapy: prospects for protease inhibitors." <i>J Cell Biochem.</i> 32(2):91-95.
	577.	Cohen, J. (July 2, 1999). "The scientific challenge of hepatitis C," <i>Science</i> , 285:26-30.
	578.	Koziel, M.J. et al. (1993). "Hepatitis C Virus (HCV)-Specific Cytotoxic T Lymphocytes Recognize Epitopes in the Core and Envelope Proteins of HCV," <i>J. Virol.</i> 67(12):7522-7532.
	579.	Kremsdorf et al. (1991). "Hepatitis C virus (HCV)-RNA in non-A, non-B chronic hepatitis in France. Nucleotide sequence of a French HCV isolate." <i>J Hepatol.</i> 13 Suppl 4:S24-32.
	580.	Krishna Murthy, H. M. et al. (1999). "Dengue Virus NS3 Serine Protease," <i>J. Bio. Chem.</i> 274(9):5573-5580.
	581.	Kryger P (1983). "Non-A, non-B hepatitis. Serological, clinical, morphological and prognostic aspects." <i>Liver</i> 3(3):176-198.
	582.	Kuida et al. (1995). "Altered cytokine export and apoptosis in mice deficient in interleukin-1 beta converting enzyme." <i>Science</i> 267(5206):2000-2003.

EXAMINER:

DATE CONSIDERED:

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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	583.	Kuo et al. (1989). "An assay for circulating antibodies to a major etiologic virus of human non-A, non-B hepatitis," <i>Science</i> 244:362-364.
	584.	Kwong (1998) "Structure based drug design targets for hepatitis C virus antiviral therapy," in <u>Symposium on Emerging Therapies for Chronic Viral Hepatitis</u> , Montreal, Canada, October 2-4, one page.
	585.	Kwong, A.D. (1997). "Hepatitis C virus NS3/4A protease," <i>Curr. Opin. Infect. Dis.</i> 10(6):485-490.
	586.	Kwong, A.D. et al. (1998). "Hepatitis C Virus NS3/4A Protease," <i>Antiviral Res.</i> 40(1-2):1-18.
	587.	Kwong, A.D. et al. (February 1999) "Hepatitis C virus NS3/4A protease," <i>Antiviral Res.</i> 41(1):67-84.
	588.	Kyono, K. et al. (1998). "Detection of Hepatitis C Virus Helicase Activity Using the Scintillation Proximity Assay System," <i>Analyt. Biochem.</i> 257:120-126.
	589.	Kyte et al. (1982). "A simple method for displaying the hydropathic character of a protein," <i>J. Mol. Biol.</i> 157:105-132.
	590.	La Vallie et al. (1993). "A thioredoxin gene fusion expression system that circumvents inclusion body formation in the E. coli cytoplasm." <i>Biotechnology</i> (N Y). 11(2):187-193.
	591.	Labonté, P. et al. (1995). "Sequence and Expression of the NS2 Protein Gene of Human Coronavirus OC43," <i>J. Gen. Virol.</i> 76:431-435.
	592.	Lagging, L.M. et al. (1995). "Immune Responses to Plasmid DNA Encoding the Hepatitis C Virus Core Protein," <i>J. Virol.</i> 69(9):5859-5863.
	593.	Leinbach, S.S. et al. (1994). "Substrate Specificity of the NS3 Serine Proteinase of Hepatitis C Virus as Determined by Mutagenesis at the NS3/NS4A Junction," <i>Virology</i> 204(1):163-169.
	594.	Landro et al. (1997). "Mechanistic role of an NS4A peptide cofactor with the truncated NS3 protease of hepatitis C virus: elucidation of the NS4A stimulatory effect via kinetic analysis and inhibitor mapping," <i>Biochemistry.</i> 36(31):9340-9348.
	595.	LaPlante et al. (1998). "Human cytomegalovirus protease complexes its substrate recognition sequences in an extended peptide conformation." <i>Biochemistry.</i> 37(27):9793-9801.
	596.	LaPlante, S.R. et al. (1999). "Solution Structure of Substrate-Based Ligands When Bound to Hepatitis C Virus NS3 Protease Domain," <i>J. Biol. Chem.</i> 274(26):18618-18624.
	597.	Lathe R (1985). "Synthetic oligonucleotide probes deduced from amino acid sequence data. Theoretical and practical considerations." <i>J Mol Biol.</i> 183(1):1-12.
	598.	Lavanchy, D. (1997). "The Threat to Public Health of Hepatitis C," <i>Res. Virol.</i> 148:143-145.

EXAMINER:	DATE CONSIDERED:
EXAMINER: Initial if citation considered, whether or not the citation conforms with MPEP 609. Draw a line through the citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.	

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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS (including author, title, date, etc.)
	599.	Lee, H.J. et al. (1991). "The Complete Sequence (22 Kilobases) of Murine Coronavirus Gene 1 Encoding the Putative Proteases and RNA Polymerase," <i>Virology</i> 180:567-582.
	600.	Leff DN (1996). "Agouron, Vertex Both Solve Hepatitis C Protease Structure." <i>BioWorld Today</i> 7(204) pp. 1 and 5.
	601.	Duplicate of Reference No. 593.
	602.	Love, R.A. (1997). "Targeting the Achilles' Heel of Hepatitis C Virus," <i>Hepatology</i> 25(4):1035-1037.
	603.	Leontovich, A.M. et al. (1993). "Construction of the Full Local Similarity Map for Two Biopolymers," <i>Biosystems</i> 30:57-63.
	604.	Levine et al. (1997). "Measurement of specific protease activity utilizing fluorescence polarization." <i>Anal Biochem.</i> 247(1):83-88.
	605.	Lewin R (September 1987). "When does homology mean something else?" <i>Science</i> . 237(4822):1570.
	606.	Liebig H-D et al. (1991). "Proteinase trapping: screening for viral proteinase mutants by alpha complementation." <i>Proc Natl Acad Sci U S A</i> . 1991 Jul 15;88(14):5979-5983.
	607.	Lin et al. (1994) "Hepatitis C virus polyprotein processing: Transcleavage by the NS3 serine proteinase domain," <i>Abstract submitted for the 2nd International Meeting on Hepatitis C and Related Viruses, held on July 31-August 5, 1994, San Diego, California, page 40.</i>
	608.	Lin et al. "A novel, high-throughput assay system for the hepatitis C virus NS3 serine protein in COS cells", <i>Abstract, 4th International Meeting on Hepatitis C Virus and Related Viruses, Molecular Virology and Pathogenesis, held on March 6-10, 1997, Kyoto, Japan, one page.</i>
	609.	Lin et al. (1993). "The hepatitis C virus genome: a guide to its conserved sequences and candidate epitopes." <i>Virus Res.</i> 30(1):27-41.
	610.	Lin et al. (1995). "The hepatitis C virus NS3 serine proteinase and NS4A cofactor: establishment of a cell-free trans-processing assay." <i>Proc Natl Acad Sci U S A</i> . 92(17):7622-7626.
	611.	Lin et al. (1994). "Hepatitis C virus NS3 serine proteinase: trans-cleavage requirements and processing kinetics." <i>J Virol.</i> 68(12):8147-8157.
	612.	Lin et al. (1995). "A central region in the hepatitis C virus NS4A protein allows formation of an active NS3-NS4A serine proteinase complex in vivo and in vitro." <i>J Virol.</i> 69(7):4373-4380.
	613.	Lin et al. (1995). "The hepatitis C virus NS3 serine proteinase and NS4A cofactor: establishment of a cell-free trans-processing assay." <i>Proc Natl Acad Sci U S A</i> . 92(17):7622-7626.
	614.	Lin et al. (1997). "The hepatitis C virus NS4A protein: interactions with the NS4B and NS5A proteins." <i>J Virol.</i> 71(9):6465-6471.

EXAMINER:	DATE CONSIDERED:
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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS (including author, title, date, etc.)
	615.	Lin, C. et al. (1994). "Hepatitis C Virus NS3 Serine Protease: <i>Trans</i> -Cleavage Requirements and Processing Kinetics," <i>J. Virol.</i> 68(12):8147-8157.
	616.	Lin, C. et al. (1994). "Processing in the Hepatitis C Virus E2-NS2 Region: Identification of P7 and Two Distinct E2-Specific Products with Different C Terminal," <i>J. Virol.</i> 68(8):5063-5073.
	617.	Lin, C. et al. (1995). "A Central Region in the Hepatitis C Virus NS4A Protein Allows Formation of an Active NS3-NS4A Serine Proteinase Complex In Vivo and In Vitro," <i>J. Virol.</i> 69(7):4373-4380.
	618.	Lindsay, K.L. (1997). "Therapy of Hepatitis C: Overview," <i>Hepatology</i> 26(3):71S-77S.
	619.	Lipford, J.R. et al. (1994). "Nucleotide Binding by the HIV-1 Integrase Protein In Vitro," <i>J. Acquired Immune Deficiency Syndromes</i> 7:1215-1223.
	620.	Liu, Q. et al. (1997). "Regulated Processing of Hepatitis C Virus Core Protein is Linked to Subcellular Localization," <i>J. Virol.</i> 71(1):657-662.
	621.	Liu, Q. et al. (1999). "The Hepatitis C Virus NS2 Protein Generated by NS2-3 Autocleavage is Required for NS5A Phosphorylation," <i>Biochem. Biophys. Res. Commun.</i> 254:572-577.
	622.	Llinas-Brunet et al. (1998). "Peptide-based inhibitors of the hepatitis C virus serine protease." <i>Bioorg Med Chem Lett.</i> 8(13):1713-1718.
	623.	Llinás-Brunet, M. et al. (1998). "Studies on the C-Terminal of Hexapeptide Inhibitors of the Hepatitis C Virus Serine Protease," <i>Bioorg. & Med. Chem. Lett.</i> 8:2719-2724.
	624.	Lo et al., (February 1994). "Comparative studies of the core gene products of two different hepatitis C virus isolates: two alternative forms determined by a single amino acid substitution," <i>Virology</i> 199(1):124-131.
	625.	Lobigs et al., (July 1988). "Murray Valley Encephalitis virus field strains from Australia and Papua New Guinea: Studies on the sequence of the major envelope protein gene and virulence for mice," <i>Virology</i> 165(1):245-255.
	626.	Lobigs M (1993). "Flavivirus premembrane protein cleavage and spike heterodimer secretion require the function of the viral proteinase NS3." <i>Proc Natl Acad Sci U S A.</i> 90(13):6218-6222.
	627.	Locarnini, S.A. (1995). "Viral Hepatitis: The Challenge Ahead," <i>Intl. Antiviral News</i> 314:54-56.
	628.	Lohmann, V. et al. (1996). "Processing Pathways of the Hepatitis C Virus Proteins," <i>J. Hepatol.</i> 24 (Suppl. 2):11-19.
	629.	Lok et al. (1993). "Antibody response to core, envelope and nonstructural hepatitis C virus antigens: comparison of immunocompetent and immunosuppressed patients." <i>Hepatology.</i> 18(3):497-502.
	630.	London et al. (1992). "Infectious enveloped RNA virus antigenic chimeras." <i>Proc Natl Acad Sci U S A.</i> 89(1):207-211.

EXAMINER:	DATE CONSIDERED:
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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS (including author, title, date, etc.)
	631.	Love et al. (1996). "The crystal structure of hepatitis C virus NS3 proteinase reveals a trypsin-like fold and a structural zinc binding site." <i>Cell</i> . 87(2):331-342.
	632.	Love et al. (1998). "The conformation of hepatitis C virus NS3 proteinase with and without NS4A: A structural basis for the activation of the enzyme by its cofactor," <i>Clin. Diag. Virol.</i> 10:151-156.
	633.	Lu et al. (1996). "Poliovirus chimeras replicating under the translational control of genetic elements of hepatitis C virus reveal unusual properties of the internal ribosomal entry site of hepatitis C virus." <i>Proc. Natl. Acad. Sci. U S A.</i> 93(4):1412-1417.
	634.	Maeda et al. (1989). "Production of antibodies directed against microtubular aggregates in hepatocytes of chimpanzees with non-A, non-B hepatitis." <i>J Gen Virol.</i> 70 (Pt 6):1401-1407.
	635.	Maeno et al. (1990). "A cDNA clone closely associated with non-A, non-B hepatitis." <i>Nucleic Acids Res.</i> 18(9):2685-2689.
	636.	Magrin et al. (1991). "Hepatitis C virus replication in 'autoimmune' chronic hepatitis." <i>J Hepatol.</i> 13(3):364-367.
	637.	Major et al. (1997). "The molecular virology of hepatitis C." <i>Hepatology.</i> 25(6):1527-1538.
	638.	Makris et al. (1990). "Hepatitis C antibody and chronic liver disease in hemophilia." <i>Lancet.</i> 335(8698):1117-1119.
	639.	Manabe et al. (1994). "Production of nonstructural proteins of hepatitis C virus requires a putative viral protease encoded by NS3." <i>Virology.</i> 198(2):636-644.
	640.	Manna et al. (1996). "Helicase-contrahelicase interaction and the mechanism of termination of DNA replication." <i>Cell.</i> 87(5):881-891.
	641.	Mannucci et al. (November 1985). "Non-A, non-B hepatitis after factor VIII concentrate treated by heating and chloroform." <i>Lancet.</i> 2(8462):1013.
	642.	Mansell et al. (1995). "Epidemiology of hepatitis C in the East." <i>Semin Liver Dis.</i> 15(1):15-32.
	643.	Mansour et al. (1997). "Antiviral nucleosides," <i>Curr Pharm Design.</i> 3(2):227-264.
	644.	Markland et al. (1997). "Purification and characterization of the NS3 serine protease domain of hepatitis C virus expressed in <i>Saccharomyces cerevisiae</i> ." <i>J Gen Virol.</i> 78 (Pt 1):39-43.
	645.	Martell, M. et al. (1992). "Hepatitis C Virus (HCV) Circulates as a Population of Different but Closely Related Genomes: Quasispecies Nature of HCV Genome Distribution," <i>Journal of Virology</i> 66(5):3225-3229.

EXAMINER:	DATE CONSIDERED:
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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	646.	Marth et al. (1996). "Recent advances in gene mutagenesis by site-directed recombination." <i>J Clin Invest.</i> 97(9):1999-2002.
	647.	Martin et al. (1997). "Affinity selection of a camelized V(H) domain antibody inhibitor of hepatitis C virus NS3 protease." <i>Protein Eng.</i> 10(5):607-614.
	648.	Martin et al. (1998). "Design of selective eglin inhibitors of HCV NS3 proteinase." <i>Biochemistry.</i> 37(33):11459-11468.
	649.	Martinot-Peignoux et al. (1995). "Pretreatment serum hepatitis C virus RNA levels and hepatitis C virus genotype are the main and independent prognostic factors of sustained response to interferon alfa therapy in chronic hepatitis C." <i>Hepatology.</i> 22(4 Pt 1):1050-6.
	650.	Matayoshi et al., (1990). "Novel Fluorogenic substrates for assaying retroviral proteases by resonance energy transfer" <i>Science</i> 247:954-958.
	651.	Matsumoto, M. et al. (1997). "Hepatitis C Virus Core Protein Interacts with the Cytoplasmic Tail of Lyphotoxin-B Receptor," <i>Journal of Virology</i> 71(2):1301-1309.
	652.	Matsuura et al., (1993). "The molecular biology of hepatitis C virus," in <i>Seminars in Virology</i> , vol. 4, pp. 297-304.
	653.	Matsuura, Y. et al. (1994). "Processing of E1 and E2 Glycoproteins of Hepatitis C Virus Expressed in Mammalian and Insect Cells," <i>Virology</i> 205:141-150.
	654.	Maynard et al. Chapter 5: "Transmission of non-A, non-B hepatitis by blood products and plasma derivatives," pp. 71-95.
	655.	McCall, J. et al. (1994). "A High Capacity Microbial Screen for Inhibitors of Human Rhinovirus Protease 3C," <i>BioTechnology</i> 12:1012-1016.
	656.	McGarvey (1994) "Expression and cellular localization of the hepatitis C virus NS3 protease-helicase protein," <i>Abstract submitted for the 2nd International Meeting on Hepatitis C and Related Viruses, held on July 31-August 5, 1994, San Diego, California</i> , page 21.
	657.	McGrath et al. (1993). "Structure of an engineered, metal-actuated switch in trypsin." <i>Biochemistry.</i> 32(8):1914-1919.
	658.	McHutchison et al. (1991). "Assessment of hepatitis C antibody tests in homosexual men with hyperglobulinemia." <i>J Infect Dis.</i> 164(1):217-218.
	659.	Meyers et al. (1989). "Ubiquitin in a togavirus," <i>Nature</i> 341:491.
	660.	Miller RH (1987). "Proteolytic self-cleavage of hepatitis B virus core protein may generate serum antigen." <i>Science.</i> 236(4802):722-725.

EXAMINER:	DATE CONSIDERED:
EXAMINER: Initial if citation considered, whether or not the citation conforms with MPEP 609. Draw a line through the citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.	

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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS (including author, title, date, etc.)
	661.	Gerin, J.L. et al., (1990). "Hepatitis B virus and liver cancer: the woodchuck as an experimental model of hepadnavirus-induced liver cancer," Abstract from 1990 International Symposium on Viral Hepatitis and Liver Disease, pp. 556-559.
	662.	Mills, J. S. (1996). "Virus Proteinase Inhibitors - What Next After HIV?" <i>Antiviral Chemistry and Chemotherapy</i> 7(6):281-293.
	663.	Mink, M.A. et al., (1994). "Characterization and mapping of a B-cell immunogenic domain in hepatitis C virus E2 glycoprotein using a yeast peptide library," <i>Virology</i> 200:246-255.
	664.	Missale, G. et al. (1996). "Different Clinical Behaviors of Acute Hepatitis C Virus Infection Are Associated with Different Vigor of the Antiviral Cell-Mediated Immune Response," <i>J. Clin. Invest.</i> 98(3):706-714.
	665.	Mita et al. (1992). "Expression of MBP-HCV NS1/E2 fusion protein in E. coli and detection of anti-NS1/E2 antibody in type C chronic liver disease." <i>Biochem Biophys Res Commun.</i> 183(3):925-930.
	666.	Miyamura et al. (1990). "Detection of antibody against antigen expressed by molecularly cloned hepatitis C virus cDNA: application to diagnosis and blood screening for posttransfusion hepatitis." <i>Proc. Natl. Acad. Sci. U S A.</i> 87(3):983-987.
	667.	Saito al. (1990). "Hepatitis C virus infection is associated with the development of hepatocellular carcinoma." <i>Proc Natl Acad Sci U S A.</i> 87(17):6547-6549.
	668.	Mizushima, H. et al. (1994). "Analysis of N-Terminal Processing of Hepatitis C Virus Nonstructural Protein 2," <i>Journal of Virology</i> 68(4):2731-2734.
	669.	Mizutani, T. (1996). "Long-term human T-cell culture system supporting hepatitis C virus replication," <i>Biochem Biophys. Res. Commun.</i> 227:822-826, Abstract only (article available upon request).
	670.	Molla et al. (1998). "Inhibitors of HCV replication," <i>Second International Conference on Therapies for Viral Hepatitis</i> , Kona, Big Island, Hawaii, Dec. 15-19, 1997, Abstract 023, one page.
	671.	Monath. (1986). "Pathobiology of the flaviviruses," Chapter 12 in <i>The Togaviridae and Flaviviridae</i> , Schlesinger et al., eds., Plenum Press: New York, pp. 375-441.
	672.	Mondelli, M. U. et al. (1994). "Significance of the Immune Response to a Major, Conformatrional B-Cell Epitope on the Hepatitis C Virus NS3 Region Defined by a Human Monoclonal Antibody," <i>Journal of Virology</i> 68(8):4829-4836.
	673.	Morgenstern et al. (1997). "Polynucleotide modulation of the protease, nucleoside triphosphatase, and helicase activities of a hepatitis C virus NS3-NS4A complex isolated from transfected COS cells." <i>J Virol.</i> 71(5):3767-3775.

EXAMINER:	DATE CONSIDERED:
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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	674.	Mori et al. (1996). "Enzymatic characterization of purified NS3 serine proteinase of hepatitis C virus expressed in Escherichia coli." <i>FEBS Lett.</i> 378(1):37-42.
	675.	Mori et al. (1997). "The N-terminal region of NS3 serine proteinase of hepatitis C virus is important to maintain its enzymatic integrity." <i>Biochem Biophys Res Commun.</i> 231(3):738-742.
	676.	Mosley et al. (1990). "Non-A, non-B hepatitis and antibody to hepatitis C virus." <i>JAMA.</i> 263(1):77-78.
	677.	Muller et al. (1993). "Genetic variability of German hepatitis C virus isolates." <i>J Med Virol.</i> 40(4):291-306.
	678.	Muramatsu et al. (1997). "Nuclear localization of the NS3 protein of hepatitis C virus and factors affecting the localization." <i>J Virol.</i> 71(7):4954-4961.
	679.	Murcko, (August 19-20, 1997) "The HCV NS3-4A serine protease: Prime target for drug design," in <i>NMHCC's Second International Conferences: Protease Inhibitors in Infectious Diseases</i> , Aug. 18-19, 1997, <i>Protease Inhibitors in Inflammation</i> , Abstract, page 8.
	680.	Murphy et al. (1996). "Demographic determinants of hepatitis C virus seroprevalence among blood donors." <i>JAMA.</i> 275(13):995-1000.
	681.	Murray et al. (1996). "Proteolytic activity of hepatitis C virus NS3 co-expressed with NS4A in E. coli." Abstract from <i>LX Triennial International Symposium on Viral Hepatitis and Liver Disease</i> , April 21-25, 1996, Rome, Italy, Abstract (full reference provided upon request), one page.
	682.	Mustilli, A. C. et al. (1999). "Comparison of Secretion of a Hepatitis C Virus Glycoprotein in <i>Saccharomyces cerevisiae</i> and <i>Kluyveromyces lactis</i> ," <i>Res. Microbiol.</i> 150:179-187.
	683.	Nasoff et al. (1991). "Identification of an immunodominant epitope within the capsid protein of hepatitis C virus." <i>Proc Natl Acad Sci U S A.</i> 88(12):5462-5466.
	684.	Nassal et al. (1989). "Proteaselike sequence in hepatitis B virus core antigen is not required for e antigen generation and may not be part of an aspartic acid-type protease." <i>J Virol.</i> 63(6):2598-604.
	685.	National Institutes of Health (1997). "National Institutes of Health Consensus Development Conference Panel statement: management of hepatitis C," <i>Hepatology</i> 26(3 Suppl.1):2S-10S.
	686.	Neddermann P. et al. (1997). "The nonstructural proteins of the hepatitis C virus: structure and functions." <i>Biol Chem.</i> 378(6):469-476.
	687.	Nelles M. (1993). "Improved performance of a third generation multiantigen screening tests for hepatitis C virus," <i>Symposium on advances in HCV diagnosis and Treatment</i> , Barcelona, Spain, pp. 7-8.
	688.	Nishioka et al. (1991). "Antibody to the hepatitis C virus in acute hepatitis and chronic liver diseases in Japan." <i>Liver.</i> 11(2):65-70.

EXAMINER:	DATE CONSIDERED:
EXAMINER: Initial if citation considered, whether or not the citation conforms with MPEP 609. Draw a line through the citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.	

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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS (including author, title, date, etc.)
	689.	Nisini, R. et al. (1997). "Human CD4+ T-Cell Response to Hepatitis Delta Virus: Identification of Multiple Epitopes and Characterization of T-Helper Cytokine Profiles," <i>Journal of Virology</i> 71(3):2241-2251.
	690.	Noever D. (1996). "Naturally occurring protease inhibitors potent against the human immunodeficiency virus," <i>Biochem Biophys Res Commun.</i> 227(1):125-130.
	691.	Ogata et al. (1991). "Nucleotide sequence and mutation rate of the H strain of hepatitis C virus." <i>Proc Natl Acad Sci U S A.</i> 88(8):3392-3396.
	692.	Ohba, K. et al. (1995). "Classification of Hepatitis C Virus into Major Types and Subtypes Based on Molecular Evolutionary Analysis," <i>Virus Research</i> 36:201-214.
	693.	Okamoto et al. (1990). "The 5'-terminal sequence of the hepatitis C virus genome." <i>Jpn J Exp Med.</i> 60(3):167-177.
	694.	Okamoto et al. (1991). "Nucleotide sequence of the genomic RNA of hepatitis C virus isolated from a human carrier: comparison with reported isolates for conserved and divergent regions." <i>J Gen Virol.</i> 72 (Pt 11):2697-2704.
	695.	Okamoto H. (1992). "Characterization of genomic structure of hepatitis C virus," 161(5):298-302.
	696.	Okano K. et al. (1990). "Functional expression of human leukocyte elastase (HLE)/medullasin in eukaryotic cells." <i>Biochem Biophys Res Commun.</i> 167(3):1326-1332.
	697.	Okuda et al. (1984). "Clinicopathological features of hepatocellular carcinoma-comparison of hepatitis B seropositive and seronegative patients," <i>Hepato-gastroenterol.</i> 31:64-68.
	698.	Ornstein, P. L. et al. (1995). "(3SR,4aRS,6SR,8aRS)-6-(1H-Tetrazol-5-yl)decahydroisoquinoline-3-carboxylic Acid, a Novel, Competitive, Systemically Active NMDA and AMPA Receptor Antagonist," <i>J. Med. Chem.</i> 38:4885-4890.
	699.	Ornstein, P. L. et al. (1996). "Structure-Activity Studies of 6-(Tetrazolylalkyl)-Substituted Decahydroisoquinoline-3-carboxylic Acid AMPA Receptor Antagonists. 1. Effects of Stereochemistry, Chain Length, and Chain Substitution," <i>J. Med. Chem.</i> 39:2219-2231.
	700.	Orru, S. et al. (1999). "Conformational Changes in the NS3 Protease From Hepatitis C Virus Strain Bk Monitored by Limited Proteolysis and Mass Spectrometry," <i>Protein Science</i> 8:1445-1454.
	701.	Oshima et al. (1991). "cDNA clones of Japanese hepatitis C virus genomes derived from a single patient show sequence heterogeneity." <i>J Gen Virol.</i> 72 (Pt 11):2805-2809.
	702.	O'Sullivan et al. (1994) "In vitro analysis of NS2/NS3 protease activity from a U.K. isolate of HCV," <i>Abstract submitted for the 2nd International Meeting on Hepatitis C and Related Viruses, held on July 31-August 5, 1994, San Diego, California, page 2.</i>

EXAMINER:	DATE CONSIDERED:
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Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	703.	Ottmann M et al. (1995). "The central globular domain of the nucleocapsid protein of human immunodeficiency virus type 1 is critical for virion structure and infectivity." <i>J Virol.</i> 69(3):1778-1784.
	704.	Overton et al. (1995). "Recombinant baculovirus-expressed NS3 proteinase of hepatitis C virus shows activity in cell-based and in vitro assays." <i>J Gen Virol.</i> 76 (Pt 12):3009-3019.
	705.	Ozkaynak et al. (1984). "The yeast ubiquitin gene: head-to-tail repeats encoding a polyubiquitin precursor protein." <i>Nature.</i> 312(5995):663-666.
	706.	Parvin et al. (August 1986). "Measurement of the mutation rates of animal viruses: Influenza a virus and poliovirus type 1," <i>J. Virol.</i> 59(2):377-383.
	707.	Pasquinelli, C. et al. (1997). "Hepatitis C Virus Core and E2 Protein Expression in Transgenic Mice," <i>Hepatology</i> 25(3):719-727.
	708.	Patick et al. (1998). "Protease inhibitors as antiviral agents," <i>Clin. Microb. Rev.</i> 11:614-627.
	709.	Duplicate of Reference No. 708.
	710.	Pecceu F et al. (1991). "Human interleukin 1 beta fused to the human growth hormone signal peptide is N-glycosylated and secreted by Chinese hamster ovary cells." <i>Gene.</i> 97(2):253-258.
	711.	Pennington et al. "Development of continuous spectrophotometric and fluorescence based assays for hepatitis C NS3 protease," Abstract, one page, (1995).
	712.	Perbal, B. (1988). <u>A Practical Guide To Molecular Cloning</u> , John Wiley & Sons, New York, Table of Contents, pp. xi-xix.
	713.	Pichuantes et al. (1989). "Recombinant HIV1 protease secreted by <i>Saccharomyces cerevisiae</i> correctly processes myristylated gag polyprotein." <i>Proteins.</i> 6(3):324-337.
	714.	Pichuantes S et al. (1990). "Recombinant HIV2 protease processes HIV1 Pr53gag and analogous junction peptides in vitro." <i>J Biol Chem.</i> 265(23):13890-13898.
	715.	Pieroni et al. (1997). "In vitro study of the NS2-3 protease of hepatitis C virus." <i>J Virol.</i> 71(9):6373-6380.
	716.	Pileri et al. (1998). "Binding of hepatitis C virus to CD81." <i>Science.</i> 282(5390):938-941.
	717.	Pizzi et al. (1994). "Molecular model of the specificity pocket of the hepatitis C virus protease: implications for substrate recognition." <i>Proc Natl Acad Sci U S A.</i> 91(3):888-892.
	718.	Platt et al. (1994). "Mortality in sickle cell disease. Life expectancy and risk factors for early death." <i>N Engl J Med.</i> 330(23):1639-44.

EXAMINER:	DATE CONSIDERED:
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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	719.	Poch et al. (1989). "Identification of four conserved motifs among the RNA-dependent polymerase encoding elements," <i>EMBO J.</i> 8:3867-3874.
	720.	Polyak, S. J. et al. (1998). "Characterization of the effects of hepatitis C virus nonstructural 5A protein expression in human cell lines and on interferon-sensitive virus replication," <i>Hepatology</i> 29(4):1262-1271.
	721.	Preugschat et al. (1990). "In vitro processing of Dengue Virus Type 2 Non Structural Proteins NS2A, NS2B, and NS3." <i>J. Virol.</i> 64: 4364-4374.
	722.	Preugschat et al. (1991). "Flavivirus enzyme-substrate interactions studied with chimeric proteinases: identification of an intragenic locus important for substrate recognition." <i>J Virol.</i> 65(9):4749-4758.
	723.	Prince et al. (1984). "Isolation of a virus from chimpanzee liver cell cultures inoculated with sera containing the agent of non-A, non-B hepatitis." <i>Lancet.</i> 2(8411):1071-1075.
	724.	Prince et al. (1985). "Inactivation of the Hutchinson strain of non-A, non-B hepatitis virus by combined use of beta-propiolactone and ultraviolet irradiation." <i>J Med Virol.</i> 16(2):119-125.
	725.	Prince et al. (1990). "Use of anti-HCV determinations for diagnosis of chronic HCV infection," in <i>Proceedings of 1990 International Symposium in Viral Hepatitis and Liver Disease</i> Houston, Texas, p. 1-18.
	726.	Purcell, R. (1994). "Hepatitis C Virus: Historical Perspective and Current Concepts," <i>FEMS Microbiology Reviews</i> 14:181-191.
	727.	Purcell, R. (1997). "The Hepatitis C Virus: Overview," <i>Hepatology</i> 26(3 Suppl. 1):115-145.
	728.	Qabar et al. (1996). "Peptide secondary structure mimetics: applications to vaccines and pharmaceuticals." <i>Farmaco.</i> 51(2):87-96.
	729.	Ramanathan et al. "Characterization of refolded hepatitis C virus-encoded serine protease," <i>presented at meeting held on March 25-31, 1996, at Keystone Co. on Proteolytic Enzymes and Inhibitors in Biology and Medicine</i> (E5), Abstract 227, p. 37.
	730.	Ray, R. et al. (1994). "Peptide Immunogen Mimicry of Putative E1 Glycoprotein-Specific Epitopes in Hepatitis C Virus," <i>Journal of Virology</i> 4420-4426.
	731.	Read et al. (1983). "Structure of the complex of <i>Streptomyces griseus</i> protease B and the third domain of the turkey ovomucoid inhibitor at 1.8-A resolution." <i>Biochemistry.</i> 22(19):4420-4433.
	732.	Reaney DC (1982). "The evolution of RNA viruses." <i>Annu Rev Microbiol.</i> 36:47-73.
	733.	Rechsteiner (1987). "Ubiquitin-mediated pathways for intracellular proteolysis," <i>Ann. Rev. Microbiol.</i> 3:1-30.

EXAMINER:	DATE CONSIDERED:
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Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	734.	Reeck et al. (1987). "'Homology" in proteins and nucleic acids: a terminology muddle and a way out of it." <i>Cell</i> . 50(5):667.
	735.	Reed et al. (1995). "Hepatitis C virus-encoded NS2-3 protease: cleavage-site mutagenesis and requirements for bimolecular cleavage." <i>J Virol</i> . 69(7):4127-4136.
	736.	Reed et al. (1997). "Phosphorylation of the hepatitis C virus NS5A protein in vitro and in vivo: properties of the NS5A-associated kinase." <i>J Virol</i> . 71(10):7187-7197.
	737.	Rehermann, B. et al. (1996). "Differential Cytotoxic T-Lymphocyte Responsiveness to the Hepatitis B and C Viruses in Chronically Infected Patients," <i>Journal of Virology</i> 70(10):7092-7102.
	738.	Rehermann, B. et al. (1996). "Quantitative analysis of the peripheral blood cytotoxic T lymphocyte response in patients with chronic hepatitis C virus infection," <i>J. Clin. Invest.</i> 98(6):1432-1440.
	739.	Reichard, O. et al. (1997). "Therapy of Hepatitis C: Alpha Interferon and Ribavirin," <i>Hepatology</i> 26 (3 Suppl. 1):108S-111S.
	740.	Reyes et al., (1990) "Isolation of a cDNA from the virus responsible for enterically transmitted non-A, non-B hepatitis," <i>Science</i> 247:1335-1339.
	741.	Reyes et al. (1991). "Molecular biology of non-A, non-B hepatitis agents: hepatitis C and hepatitis E viruses." <i>Adv Virus Res.</i> 40:57-102.
	742.	Rizzuto et al. (1996). "Double labelling of subcellular structures with organelle-targeted GFP mutants in vivo." <i>Curr Biol</i> . 6(2):183-188.
	743.	Roizman, B. and Palese, P. (1996). "Chapter 4: Multiplication of Viruses: An Overview," in <u>Fields Virology</u> , Third Edition, pp. 101-111.
	744.	Rumenapf et al. (1997). "N-terminal protease of pestiviruses: identification of putative catalytic residues by site-directed mutagenesis." <i>J Virol</i> . 72(3):2544-2547.
	745.	Ryan, M. D. et al. (1998). "Virus-encoded Proteinases of the Flaviviridae," <i>Journal of General Virology</i> 79:947-959.
	746.	Ryff, J. (1995). "Usefulness of Interferon for Treatment of Hepatitis C," <i>Journal of Hepatology</i> 22 (Suppl. 1):101-109.
	747.	Duplicate of Reference No. 667.
	748.	Sakamuro et al. (1995). "Hepatitis C virus nonstructural protein NS3 transforms NIH 3T3 cells." <i>J Virol</i> . 69(6):3893-3896.
	749.	Sali et al. (1998). "Serine protease of hepatitis C virus expressed in insect cells as the NS3/4A complex," <i>Biochemistry</i> . 37(10):3392-3401.

EXAMINER:	DATE CONSIDERED:
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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS (including author, title, date, etc.)
	750.	Sällberg, M. et al. (1996). "Immunogenicity of the ATPase/Helicase Domain of the Hepatitis C Virus Non-Structural 3 Protein," <i>J. Gen. Virol.</i> 77:2721-2728.
	751.	Sambrook et al. (1989). <u>Molecular Cloning: A Laboratory Manual</u> . 2nd edition, Cold Spring Harbor Laboratory Press: New York, Table of Contents, pp. v-xxxii.
	752.	Santolini, E. et al. (1995). "The NS2 Protein of Hepatitis C Virus is a Transmembrane Polypeptide," <i>J. Virol.</i> 69(12):7461-7471.
	753.	Satoh et al. (1995). "The N-terminal region of hepatitis C virus nonstructural protein 3 (NS3) is essential for stable complex formation with NS4A." <i>J Virol.</i> 69(7):4255-4260.
	754.	Scarselli et al. (1997). "GB virus B and hepatitis C virus NS3 serine proteases share substrate specificity." <i>J Virol.</i> 71(7):4985-4989.
	755.	Schlesinger et al. (October 1985). "Protection against 17D yellow fever encephalitis in mice by passive transfer of monoclonal antibodies to the nonstructural glycoprotein gp48 and by active immunization with gp48," <i>J. Immunol.</i> 135(4):2805-2809.
	756.	Schlesinger et al. (1986). "Protection against yellow fever in monkeys by immunization with yellow fever virus nonstructural protein NS1." <i>J Virol.</i> 60(3):1153-1155.
	757.	Schlesinger et al. (1987). "Protection of mice against dengue 2 virus encephalitis by immunization with the dengue 2 virus non-structural glycoprotein NS1," <i>J. Gen. Virol.</i> 68:853-857.
	758.	Scott et al. (1985). "Protease nexin. Properties and a modified purification procedure." <i>J Biol Chem.</i> 260(11):7029-7034.
	759.	Seeff, L.B. (1997). "Natural History of Hepatitis C," <i>Hepatol.</i> 26(3):21S-28S.
	760.	Selby et al. (1993). "Expression, identification and subcellular localization of the proteins encoded by the hepatitis C viral genome." <i>J. Gen. Virol.</i> 74:1103-1113
	761.	Selby et al., (1994). "Complex processing and protein-protein interactions..." <i>Virology</i> 204:114-122.
	762.	Shanks & Lomonosoff (1990). "The primary structure of the 24k protease from red clover nettle virus implications for the mode of action of comovirus protease," <i>J. Gen. Virol.</i> 172:735-738.
	763.	Shapiro et al. (1996). "19F NMR monitoring of a S(N)Ar reaction on solid support," <i>Tetra Letters</i> 37(27):4671-4674.
	764.	Sharara et al. (1996). "Hepatitis C," <i>Ann Intern Med.</i> 125(8):658-668.
	765.	Shimizu et al. (1990). "Early events in hepatitis C virus infection of chimpanzees." <i>Proc Natl Acad Sci U S A.</i> 87(16):6441-6444.

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	766.	Shimizu et al. (1992). "Evidence for in vitro replication of hepatitis C virus genome in a human T-cell line." <i>Proc Natl Acad Sci U S A.</i> 89(12):5477-5481.
	767.	Shimizu et al. (1995). "Identification of sequences of NS4A essential for HCV NS3 protease activation," Symposium on hepatitis C virus and related viruses in hepatitis C virus and related viruses, 3rd International Meeting, Australia, two pages.
	768.	Shimizu et al. (1996). "Identification of the sequence on NS4A required for enhanced cleavage of the NS5A/5B site by hepatitis C virus NS3 protease." <i>J Virol.</i> 70(1):127-132.
	769.	Shimotohno, K. et al. (1995). "Processing of the Hepatitis C Virus Precursor Protein," <i>J. Hepatol.</i> 22(Suppl. 1):87-92.
	770.	Shoji et al. (1994) "Serine Proteinase activity of hepatitis C virus NS3 protein expressed in bacteria," <i>Abstract submitted for the 2nd International Meeting on Hepatitis C and Related Viruses, held on July 31-August 5, 1994, San Diego, California, page 37.</i>
	771.	Shoji et al. (1995). "Proteolytic activity of NS3 serine proteinase of hepatitis C virus efficiently expressed in Escherichia coli." <i>Hepatology.</i> 22(6):1648-1655.
	772.	Shoji, I. et al. (1999). "Internal Processing of Hepatitis C Virus NS3 Protein," <i>Virology</i> 254:315-323.
	773.	Shukla et al. (1995). "Evaluation of complete genome sequences and sequences of individual gene products for the classification of hepatitis C viruses." <i>Arch Virol.</i> 140(10):1747-1761.
	774.	Sigler et al. (1966). "An x-ray diffraction study of inhibited derivatives of alpha-chymotrypsin." <i>Mol Biol.</i> 15(1):175-192.
	775.	Simmonds et al. (1990). "Hepatitis C quantification and sequencing in blood products, hemophiliacs, and drug users." <i>Lancet.</i> 336(8729):1469-1472.
	776.	Simmonds et al. (1993). "Classification of hepatitis C virus into six major genotypes and a series of subtypes by phylogenetic analysis of the NS-5 region." <i>J Gen Virol.</i> 74 (Pt 11):2391-2399.
	777.	Simmonds P. (1994). "Variability of hepatitis C virus genome." <i>Curr Stud Hematol Blood Transfus.</i> (61):12-35.
	778.	Simmonds P. (1995). "Variability of hepatitis C virus." <i>Hepatology.</i> 21(2):570-583.
	779.	Simmonds, P. (1996). "Virology of Hepatitis C Virus," <i>Clin. Therap.</i> 18(Suppl. B):9-36.
	780.	Smith et al. (1985). "Synthesis of proteins and glycoproteins in degue type 2 virus-infected Vero and <i>Aedes albopictus</i> cells," <i>J. Gen. Virol.</i> 66:559-571.
	781.	Smith et al. (1987). "The mutation rate and variability of eukaryotic viruses: An analytical review," <i>J. Gen. Virol.</i> 68:2729-2740.

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Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	782.	Snijder, E.J. et al. (1996). "The Arterivirus Nsp2 Protease," <i>J. Biol. Chem.</i> 270(28):16671-16676.
	783.	Snijder, E.J. et al. (1996). "The Arterivirus Nsp4 Protease is the Prototype of a novel Group of Chymotrypsin-Like Enzymes, the 3C-Like Serine Proteases," <i>J. Biol. Chem.</i> 271(9):4864-4871.
	784.	Song et al. (1996). "Development of an in vivo assay system suitable for screening inhibitors of hepatitis C viral protease," <i>Mol Cells</i> 6(2):183-189.
	785.	Soni et al. (1995). "Genetic diversity of hepatitis C virus: implications for pathogenesis, treatment, and prevention. Report of a meeting of Physicians and Scientists." <i>Lancet.</i> 345(8949):562-566.
	786.	Spaete et al. (1992). "Characterization of the hepatitis C virus E2/NS1 gene product expressed in mammalian cells." <i>Virology.</i> 188(2):819-830.
	787.	Steimer et al. (1986). "Recombinant polypeptide from the endonuclease region of the acquired immune deficiency syndrome retrovirus polymerase (pol) gene detects serum antibodies in most infected individuals." <i>J Virol.</i> 58(1):9-16.
	788.	Steinhauer et al. (1987). "Rapid evolution of RNA viruses," <i>Ann. Rev. Microbiol.</i> 41:409-433.
	789.	Steinkuhler et al. (1995). "Enzymatic activities encoded by hepatitis C virus," Symposium on hepatitis C virus and related viruses, 5th International Meeting on Hepatitis C Virus and related viruses, Australia, one page.
	790.	Steinkuhler et al. (1996). "Activity of purified hepatitis C virus protease NS3 on peptide substrates." <i>J Virol.</i> 70(10):6694-6700.
	791.	Steinkuhler et al. (1996). "In vitro activity of hepatitis C virus protease NS3 purified from recombinant Baculovirus-infected sf9 cells." <i>J Biol Chem.</i> 271(11):6367-6373.
	792.	Steinkuhler et al. (1998). "Product inhibition of the hepatitis C virus NS3 protease." <i>Biochemistry.</i> 37(25):8899-8905.
	793.	Stempel, C.A. et al. (1993). "Hepatitis C- Its Prevalence in End-Stage Renal Failure Patients and Clinical Course After Kidney Transplantation," <i>Transplantation</i> 55(2):273-276.
	794.	Stempniak et al. (April 1997). "The NS3 proteinase domain of hepatitis C virus is a zinc-containing enzyme." <i>J. Virol.</i> 71(4):2881-2886.
	795.	Stevens et al. (1990). "Epidemiology of hepatitis C virus. A preliminary study in volunteer blood donors." <i>JAMA.</i> 263(1):49-53.
	796.	Strauss et al. (1985). "Chapter 6: Assembly of enveloped animal viruses," <i>Virus Structure and Assembly</i> , Casjens, ed., Jones and Bartlett: Boston, pp. 206-234.

EXAMINER:	DATE CONSIDERED:
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	797.	Strauss et al. (1987). "Replication of alphaviruses and flaviviruses: Proteolytic processing of polyproteins," in <u>Positive Strand RNA Viruses: Proceedings of a UCLA Symposium</u> held in Keystone, Colorado, in April 20-26, 1986, Brinton et al., eds., Alan R. Liss, New York, pp. 209-225.
	798.	Strauss et al. (1988). "Evolution of RNA viruses," <i>Ann. Rev. Microbiol.</i> 42:657-683.
	799.	Studier, F.W. and Moffatt, B.A. (1986). "Use of Bacteriophage T7 RNA Polymerase to Direct Selective High-Level Expression of Cloned Genes," <i>J. Mol. Biol.</i> 189:113-130.
	800.	Subramanya et al. (1996). "Crystal structure of a DExx box DNA helicase." <i>Nature</i> . 384(6607):379-383.
	801.	Sudo et al. (1996). "Establishment of an in vitro assay system for screening hepatitis C virus protease inhibitors using high performance liquid chromatography." <i>Antiviral Res.</i> 32(1):9-18.
	802.	Sudo et al. (1997). "Novel hepatitis C virus protease inhibitors: thiazolidine derivatives." <i>Biochem Biophys Res Commun.</i> 238(2):643-647.
	803.	Suzich et al. (1993). "Hepatitis C virus NS3 protein polynucleotide-stimulated nucleoside triphosphatase and comparison with the related pestivirus and flavivirus enzymes." <i>J Virol.</i> 67(10):6152-6158.
	804.	Suzuki et al. (1995). "In vivo and in vitro trans-cleavage activity of hepatitis C virus serine proteinase expressed by recombinant baculoviruses." <i>J Gen Virol.</i> 76 (Pt 12):3021-3029.
	805.	Suzuki et al., (1994) "Characterization of hepatitis C virus proteinase expressed in insect cells," <i>Abstract submitted for the 2nd International Meeting on Hepatitis C and Related Viruses, held on July 31-August 5, 1994, San Diego, California</i> , page 36.
	806.	Svitkin, Y.V et al. (1979). "Encephalomyocarditis Virus-Specific Polypeptide p22 Possessing a Proteolytic Activity," <i>FEBS Lett.</i> 108(1):6-9.
	807.	Swinbanks D (1989). "Hepatitis viruses. Blood donors to be screened." <i>Nature</i> . 342(6249):467.
	808.	Tai, C et al. (1996). "The Helicase Activity Associated with Hepatitis C Virus Nonstructural Protein 3 (NS3)," <i>Journal of Virology</i> 70(12):8477-8484.
	809.	Takahashi et al. (1992). "p26 protein and 33-nm particle associated with nucleocapsid of hepatitis C virus recovered from the circulation of infected hosts." <i>Virology</i> . 191(1):431-434.
	810.	Takamizawa et al. (1991). "Structure and organization of the hepatitis C virus genome isolated from human carriers." <i>J Virol.</i> 65(3):1105-1113.
	811.	Takano et al. (1994). "Effects of interferon beta on non-A, non-B acute hepatitis: a prospective, randomized, controlled-dose study. Japan Acute Hepatitis Cooperative Study Group." <i>Gastroenterology</i> . 107(3):805-811.

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Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	812.	Takeshita et al. (1997). "An enzyme-linked immunosorbent assay for detecting proteolytic activity of hepatitis C virus proteinase." <i>Anal. Biochem.</i> 247(2):242-246.
	813.	Takeuchi et al. (1990). "Hepatitis C viral cDNA clones isolated from a healthy carrier donor implicated in post-transfusion non-A, non-B hepatitis." <i>Gene.</i> 91(2):287-291.
	814.	Takeuchi et al. (1990). "Nucleotide sequence of core and envelope genes of the hepatitis C virus genome derived directly from human healthy carriers." <i>Nucleic Acids Res.</i> 18(15):4626.
	815.	Takeuchi et al. (1990). "The putative nucleocapsid and envelope protein genes of hepatitis C virus determined by comparison of the nucleotide sequences of two isolates derived from an experimentally infected chimpanzee and healthy human carriers." <i>J Gen Virol.</i> 71 (Pt 12):3027-3033.
	816.	Taliani et al. (1996). "A continuous assay of hepatitis C virus protease based on resonance energy transfer depsi-peptide substrates," <i>Anal Biochem.</i> 240(1):60-67.
	817.	Tan, D. et al. (1993). "Molecular Cloning, Sequencing and Expression of Core and NS3 Fragments of HCV From Patients With HCV Infection," <i>Chinese Medical Journal</i> 105(7):522-526.
	818.	Tanji et al. (1994). "Identification of the domain required for trans-cleavage activity of hepatitis C viral serine proteinase." <i>Gene.</i> 145(2):215-219.
	819.	Tanji, Y. et al. (1994). "Hepatitis C Virus Polyprotein Processing: Kinetics and Mutagenic Analysis of Serine Proteinase-Dependent Cleavage," <i>Journal of Virology</i> 68(12):8418-8422.
	820.	Tanji et al. (1995). "Hepatitis C virus-encoded nonstructural protein NS4A has versatile functions in viral protein processing." <i>J Virol.</i> 69(3):1575-1581.
	821.	Tanji, Y. et al. (1995). "Phosphorylation of Hepatitis C Virus-Encoded Nonstructural Protein NS5A," <i>Journal of Virology</i> 69(7):3980-3986.
	822.	Taremi et al. (1998). "Construction, expression, and characterization of a novel fully activated recombinant single-chain hepatitis C virus protease." <i>Protein Sci.</i> 7(10):2143-2149.
	823.	Thaler, M. M. et al. (1991). "Vertical Transmission of Hepatitis C Virus," <i>Lancet</i> 338:17-18.
	824.	Thomas et al. (1996). "Pathophysiology and treatment of hepatitis C." <i>Drugs.</i> 52 Suppl 2:1-7; discussion 7-8.
	825.	Thomson et al. "Crystal Structure of the hepatitis C NS3 protease domain complexed with a synthetic NS4A cofactor peptide," <i>4th International Meeting on Hepatitis C Virus and Related Viruses, Molecular Virology and Pathogenesis, held on March 6-10, 1997, Kyoto, Japan</i> , Abstract, page 7.

EXAMINER:	DATE CONSIDERED:
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Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	826.	Thomson (1998). "On the Machinations of the hepatitis C virus NS3/4A protein." Abstract 022, <u>Second International Conference on Therapies for Viral Hepatitis</u> , Kona, Big Island, Hawaii, Dec. 15-19, 1997, one page.
	827.	Thornberry NA (1994). "Inflammation. Key mediator takes shape." <i>Nature</i> . 370(6487):251-252.
	828.	Tokita et al. (1994). "Hepatitis C virus variants from Vietnam are classifiable into the seventh, eighth, and ninth major genetic groups." <i>Proc Natl Acad Sci U S A</i> . 91(23):11022-11026.
	829.	Tomassini et al. (1994). "Inhibition of cap (m7GpppXm)-dependent endonuclease of influenza virus by 4-substituted 2,4-dioxobutanoic acid compounds." <i>Antimicrob Agents Chemother</i> . 38(12):2827-2837.
	830.	Tomassini et al. (1996). "A novel antiviral agent which inhibits the endonuclease of influenza viruses." <i>Antimicrob Agents Chemother</i> . 40(5):1189-1193.
	831.	Tomei et al. (1994) "The NS3-NS4A protease of hepatitis C virus," <i>Abstract submitted for the 2nd International Meeting on Hepatitis C and Related Viruses, held on July 31-August 5, 1994, San Diego, California</i> , page 38.
	832.	Tomei et al. (1993). "NS3 is a serine protease required for processing of hepatitis C virus polyprotein." <i>J Virol</i> . 67(7):4017-4026.
	833.	Tomei et al. (1996). "A central hydrophobic domain of the hepatitis C virus NS4A protein is necessary and sufficient for the activation of the NS3 protease." <i>J Gen Virol</i> . 77 (Pt 5):1065-1070.
	834.	Tomei, L. et al. (1993). "NS3 is a Serine Protease Required for Processing of Hepatitis C Virus Polyprotein," <i>Journal of Virology</i> 67(7):4017-4026.
	835.	Tong, M. J. et al. (1994). "Evidence for Hepatitis C Viral Infection in Patients with Primary Hepatocellular Carcinoma," <i>West. J. Med</i> . 160(2):133-138.
	836.	Tong, M. J. et al. (1995). "Clinical Outcomes After Transfusion-Associated Hepatitis C," <i>The New England Journal of Medicine</i> 332(22):1463-1466.
	837.	Travis et al. (1985). "Isolation and properties of recombinant DNA produced variants of human alpha 1-proteinase inhibitor." <i>J Biol Chem</i> . 260(7):4384-4389.
	838.	Tsai, S. et al. (1995). "Cellular immune responses in patients with dual infection of hepatitis B and C viruses: dominant role of hepatitis C virus," <i>Hepatology</i> 21(4):908-912.
	839.	Tsai, S. et al. (1998). "Hepatitis C virus variants circumventing cytotoxic T lymphocyte activity as a mechanism of chronicity," <i>Gastroenterology</i> 115(4):954-966.
	840.	Tu, H. et al. (1999). "Hepatitis C Virus RNA Polymerase and NS5A Complex with a SNARE-like Protein," <i>Virology</i> 263:30-41.

EXAMINER:	DATE CONSIDERED:
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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	841.	Urbani et al. (1997). "Substrate specificity of the hepatitis C virus serine protease NS3." <i>J Biol Chem.</i> 272(14):9204-9209.
	842.	Urbani et al. (1998). "The metal binding site of the hepatitis C virus NS3 protease. A spectroscopic investigation." <i>J Biol Chem.</i> 273(30):18760-18769.
	843.	Urvil PT et al. (1997). "Selection of RNA aptamers that bind specifically to the NS3 protease of hepatitis C virus." <i>Eur J Biochem.</i> 248(1):130-138.
	844.	Valenzuela et al. (1990). "Hepatitis A, B, C, D and E viruses: structure of their genomes and general properties." <i>Gastroenterol Jpn.</i> 25 Suppl 2:62-71.
	845.	van Brunt J (1992). "Lilly Looks to Biotech," <i>BioWorld Today</i> 3(216):1-3.
	846.	van der Poel et al. (1989). "Anti-hepatitis C antibodies and non-A, non-B post-transfusion hepatitis in The Netherlands." <i>Lancet.</i> 2(8658):297-298.
	847.	van der Poel et al. (1991). "Confirmation of hepatitis C virus infection by new four-antigen recombinant immunoblot assay." <i>Lancet.</i> 337(8737):317-319.
	848.	van der Poel et al. (1994). "Hepatitis C virus six years on." <i>Lancet.</i> 344(8935):1475-1479.
	849.	Van Dinten, L. C. et al. (1996). "Processing of the Equine Arteritis Virus Replicase ORF1b Protein: Identification of Cleavage Products Containing the Putative Viral Polymerase and Helicase Domains," <i>Journal of Virology</i> 70(10):6625-6633.
	850.	Van Dinten, L. C. et al. (1999). "Proteolytic Processing of the Open Reading Frame 1b-Encoded Part of Arterivirus Replicase is Mediated by NSP4 Serine Protease and is Essential for Virus Replication," <i>Journal of Virology</i> 73(3):2027-2037.
	851.	Van Doorn, L. (1994). "Review: Molecular Biology of the Hepatitis C Virus," <i>Journal of Medical Virology</i> 43:345-356.
	852.	Verchot J et al. (June 1995) "Evidence that the potyvirus P1 proteinase functions in trans as an accessory factor for genome amplification." <i>J Virol.</i> 69(6):3668-3674.
	853.	Vishnuvardhan et al. (1997). "Expression of highly active recombinant NS3 protease domain of hepatitis C virus in E. coli." <i>FEBS Lett.</i> 402(2-3):209-212.
	854.	Wada M et al. (Nov; 1997). "Importance of pretreatment viral load and monitoring of serum hepatitis C virus RNA in predicting responses to interferon-alpha2a treatment of chronic hepatitis C." <i>J Interferon Cytokine Res.</i> 17(11):707-712.

EXAMINER:	DATE CONSIDERED:
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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS (including author, title, date, etc.)
	855.	Wang et al. "Expression of HCV NS3 protease and detection of its activity in mammalian cells," <i>4th International Meeting on Hepatitis C Virus and Related Viruses, Molecular Virology and Pathogenesis, held on March 6-10, 1997, Kyoto, Japan</i> , Abstract, page 95.
	856.	Wang et al. (1986). "Structure, sequence and expression of the hepatitis delta (delta) viral genome." <i>Nature</i> . 323(6088):508-514.
	857.	Wardell, A. D. et al. (1999). "Characterization and Mutational Analysis of the Helicase and NTPase Activities of Hepatitis C Virus Full-Length NS3 Protein," <i>Journal of General Virology</i> 80:701-709.
	858.	Warrener et al. (1995). "Pestivirus NS3 (p80) protein possesses RNA helicase activity." <i>J Virol.</i> 69(3):1720-1726.
	859.	Watanabe et al. (1990). "Prevalence of anti-HCV antibody in blood donors in the Tokyo area." <i>Vox Sang.</i> 59(2):86-88.
	860.	Webber, S. et al. (1996). "Design, Synthesis, and Evaluation of Nonpeptidic Inhibitors of Human Rhinovirus 3C Protease," <i>J. Med. Chem.</i> 39:5072-5082.
	861.	Webber, S. et al. (1998). "Tripeptide Aldehyde Inhibitors of Human Rhinovirus 3C protease: Design, Synthesis, Biological Evaluation, and Cocystal Structure Solution of P1 Glutamine Isosteric Replacements," <i>J. Med. Chem.</i> 41:2786-2805.
	862.	Wehler et al. (1996). "Magic angle spinning NMR: a valuable tool for monitoring the progress of reactions in solid phase synthesis" <i>Tetra Letters</i> . 37(27):4771-4774.
	863.	Weiland, O. (1994). "Interferon Therapy in Chronic Hepatitis C Virus Infection," <i>FEMS Microbiology Reviews</i> 14:279-288.
	864.	Weiner et al. (1987). "Hepatitis delta (δ) cDNA clones: Undetectable hybridization to nucleic acids from infectious non-A non-B hepatitis B DNA," <i>J. Med. Virol.</i> 21:239-247.
	865.	Weiner et al. (1988). "A single antigenomic open reading frame of the hepatitis delta virus encodes the epitope(s) of both hepatitis delta antigen polypeptides p24 delta and p27 delta." <i>J Virol.</i> 62(2):594-599.
	866.	Weiner et al. (1990). "HCV testing in low-risk population." <i>Lancet</i> . 336(8716):695.
	867.	Weiner et al. (1991). "Variable and hypervariable domains are found in the regions of HCV corresponding to the flavivirus envelope and NS1 proteins and the pestivirus envelope glycoproteins," <i>Virology</i> 180:842-848.
	868.	Weiner, et al., (1991). "Sequence variation in hepatitis C viral isolates," <i>J. Hepatol.</i> (13)4:S6-S14.
	869.	Wengler et al. (1985). "Sequence analysis of the membrane protein V3 of the flavivirus West Nile virus and of its gene," <i>Virology</i> 147:264-274.

EXAMINER:	DATE CONSIDERED:
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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	870.	Wengler et al. (1987). "Analysis of the influence of proteolytic cleavage on the structural organization of the surface of the West Nile flavivirus leads to the isolation of a protease-resistant E protein oligomer from the viral surface," <i>Virology</i> 160:210-219.
	871.	Wengler et al. (1991). "In vitro synthesis of West Nile virus proteins indicates that the amino-terminal segment of the NS3 protein contains the active centre of the protease which cleaves the viral polyprotein after multiple basic amino acids." <i>J Gen Virol.</i> 72 (Pt 4):851-858.
	872.	White, D.O. et al. (1995). "Togaviridae," in <i>Medical Virology</i> Chapter 25, 4th edition, pp. 418-432.
	873.	Wilkinson CS. (1997). "Hepatitis C virus NS2-3 proteinase," <i>Biochem Soc Trans.</i> 25(4):S611.
	874.	Wilkinson et al. (1997). "Characterization of an HCV NS3/NS4A proteinase fusion protein expressed in E.coli using synthetic peptide substrates," <i>Biochem Soc Trans.</i> 25(4):S624.
	875.	Willett et al. (1995). "Engineered metal regulation of trypsin specificity." <i>Biochemistry.</i> 34(7):2172-80.
	876.	Willett et al. (1996). "Delocalizing trypsin specificity with metal activation." <i>Biochemistry.</i> 35(19):5992-5998.
	877.	Wilson et al. (1994). "Structure and mechanism of interleukin-1 beta converting enzyme." <i>Nature.</i> 370(6487):270-5.
	878.	Wong, D. K. H. et al. (1998). "Liver-Derived CTL in Hepatitis C Virus Infection: Breadth and Specificity of Responses in a Cohort of Persons with Chronic Infection," <i>J. Immun.</i> 160(3):1479-1488.
	879.	Worman HJ (1995). "Interferon treatment of viral hepatitis", 2 pages, located at << http://cpmcnet.columbia.edu/dept/gi/intron.html >>.
	880.	Wu et al. (1998). "Mechanism of autoproteolysis at the NS2-NS3 junction of the hepatitis C virus polyprotein," <i>TIBS</i> 23:92-94.
	881.	Xu et al. (1997). "Bovine viral diarrhea virus NS3 serine proteinase: polyprotein cleavage sites, cofactor requirements, and molecular model of an enzyme essential for pestivirus replication." <i>J Virol.</i> 71(7):5312-22.
	882.	Yamada et al. (1995). "Cloning and evaluation of the hepatitis C virus NS3 proteinase region on the basis of proteinase activity," Symposium on hepatitis C virus and related viruses, 3rd International Meeting on Hepatitis C Virus and related viruses, Australia, one page.
	883.	Yamada et al. (1996). "Genetic organization and diversity of the 3' noncoding region of the hepatitis C virus genome." <i>Virology.</i> 223(1):255-261.
	884.	Yamada et al. (1998). "Critical point mutations for hepatitis C virus NS3 proteinase." <i>Virology.</i> 246(1):104-112.
	885.	Yamashita, T. et al. (1998). "RNA-dependent RNA Polymerase Activity of the Soluble Recombinant Hepatitis C Virus NS5B Protein Truncated at the C-terminal Region," <i>J. Bio. Chem.</i> 273(25):15479-15486.

EXAMINER:	DATE CONSIDERED:
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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	886.	Yamshchikov et al. (1995). "Formation of the flavivirus envelope: role of the viral NS2B-NS3 protease." <i>J Virol.</i> 69(4):1995-2003.
	887.	Yamshchikov et al. (1997). "Upregulation of signalase processing and induction of prM-E secretion by the flavivirus NS2B-NS3 protease: roles of protease components." <i>J Virol.</i> 71(6):4364-71.
	888.	Yan et al. (1998). "Complex of NS3 protease and NS4A peptide of BK strain hepatitis C virus: a 2.2 Å resolution structure in a hexagonal crystal form." <i>Protein Sci.</i> 7(4):837-847.
	889.	Yan et al. (1996). "Crystal structure of hepatitis C Virus (HCV) NS3 protease-NS4A (21-34) complex at 2.8 Å resolution," oral presentation (Abstract No. 138), one page only.
	890.	Yanagi, M. et al. (1997). "Transcripts from a Single Full-Length cDNA clone of Hepatitis C Virus are Infections when Directly Transfected into the Liver of a Chimpanzee," <i>Proc. Natl. Acad. Sci. USA</i> 94:8738-8743.
	891.	Yen, J. et al. (1995). "Cellular Proteins Specifically Bind to the 5'-Noncoding Region of Hepatitis C Virus RNA," <i>Virology</i> 208:723-732.
	892.	Yoo et al. (1992). "5' end-dependent translation initiation of hepatitis C viral RNA and the presence of putative positive and negative translational control elements within the 5' untranslated region." <i>Virology.</i> 191(2):889-899.
	893.	Yoo et al. (1995). "Transfection of a differentiated human hepatoma cell line (Huh7) with in vitro-transcribed hepatitis C virus (HCV) RNA and establishment of a long-term culture persistently infected with HCV." <i>J Virol.</i> 69(1):32-38.
	894.	Yoshikura et al. (1981). "Role of protease in mouse hepatitis virus-induced cell fusion. Studies with a cold-sensitive mutant isolated from a persistent infection." <i>Virology.</i> 113(2):503-511.
	895.	Yuasa et al. (1991). "The particle size of hepatitis C virus estimated by filtration through microporous regenerated cellulose fibre." <i>J Gen Virol.</i> 72 (Pt 8):2021-2024.
	896.	Zein et al. (1996). "Hepatitis C genotypes: current trends and future implications." <i>Mayo Clin Proc.</i> 71(5):458-462.
	897.	Zhang, Z. et al. (1994). "A Cell-Binding arg-gly-asp Sequence is Present in Close Proximity to the Major Linear Antigenic Region of HCV NS3," <i>Biochemical and Biophysical Research Communications</i> 202(3):1352-1356.
	898.	Zhang et al. (1995). "Hierarchic regulation of HCV NS3 function by NS2," Symposium on hepatitis C virus and related viruses, 3rd International Meeting on Hepatitis C Virus, Australia, one page.
	899.	Zhang et al. (1997). "Probing the substrate specificity of hepatitis C virus NS3 serine protease by using synthetic peptides." <i>J Virol.</i> 71(8):6208-6213.

EXAMINER:	DATE CONSIDERED:
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	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	900.	Zhang et al. (1999). "A continuous spectrophotometric assay for the hepatitis C virus serine protease." <i>Anal Biochem.</i> 270(2):268-75.
	901.	Zuckerman A (1990). "Hepatitis C virus: a giant leap forward" <i>Hepatology elsewhere</i> 11(2):322-323.
	902.	Answer of Defendant Eli Lilly and Company. Chiron Corporation v. Eli Lilly and Company, and Vertex Pharmaceuticals, Inc.: Case No. C-98-2974 CW ENE. In the United States District Court, Northern District of California. 09/21/98
	903.	Defendant Gilead Sciences, Inc.'s Answer to Complaint and Counterclaims, Chiron Corporation v. Gilead Sciences, Inc.: Case No. C-98-2994 VRW, United States District Court, Northern District of California. 09/21/98
	904.	Answer and Counterclaims of Defendant Agouron Pharmaceuticals, Inc. Chiron Corporation v. Agouron Pharmaceuticals, Inc.: Civil Action No. C-98-2995 SI. United States District Court, Northern District of California. 10/01/98
	905.	Defendant Gilead Sciences, Inc.'s Initial Disclosure of Prior Art Pursuant to Civil Local Rule 16-7. Chiron Corporation v. Gilead Sciences, Inc., and Related Actions: Case No. C-98-2994 CW. United States District Court, Northern District of California. 11/10/98
	906.	Vertex's Initial Disclosure of Prior Art for U.S. Patent Nos. 5,371,017, 5,585,258 and 5,597,691 under Local Rule 16-7(d). Chiron Corporation v. Eli Lilly and Company, and Vertex Pharmaceuticals Inc. Civil No. 98-2974 CW (ENE). United States District Court, Northern District of California. 11/12/98
	907.	Lilly's Initial Disclosure of Prior Art for U.S. Patent Nos. 5,371,017, 5,585,258, and 5,597,691 Under Local Rule 1607(d)-(f). 11/12/98
	908.	Agouron's Initial Disclosure of Prior Art Pursuant to Local Rules 16-7(d) and (e). Chiron Corporation v. Agouron Pharmaceuticals, Inc. Civil Action No. C-98-2995 CW. 11/12/98
	909.	Answer of Defendant Vertex Pharmaceuticals Incorporated. Chiron Corporation v. Eli Lilly & Co., and Vertex Pharmaceuticals Incorporated. Case No.: C-98-2974 CW [PJH], Related Action Nos: C-98-2994 CW [PJH] and C-98-2995. 02/01/99
	910.	Vertex's First Supplemental Disclosure of Prior Art for U.S. Patent Nos. 5,371,017, 5,585,258 and 5,597,691 Under Local Rule 16-7(d). Chiron Corporation v. Eli Lilly and Company, and Vertex Pharmaceuticals Inc. Civil No. 98-2974 CW (PJH), Related Action Nos. C-98-02994 CW [PJH] and C-98-02995 CW [PJH]. 02/05/99
	911.	Vertex's Second Supplemental Disclosure of Prior Art for U.S. Patent Nos. 5,371,017, 5,585,258 and 5,597,691 Under Local Rule 16-7(d). Chiron Corporation v. Eli Lilly and Vertex Pharmaceuticals Inc. Civil No. 98-2974 CW (PJH), Related Action Nos. C-98-02994 CW [PJH] and C-98-02995 CW [PJH]. 02/12/99

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	912.	Gilead Sciences, Inc.'s Response to Chiron's Proposed Claim Construction Statement on the '017, '258 and '691 Patents Pursuant to Local Rule 16-10(b). Chiron Corporation v. Gilead Sciences, Inc. Case No. C-98-2994 CW [PJH]. 03/22/99
	913.	Response Chart to Chiron's Claim Chart on U.S. Patent Nos. 5,371,017, 5,585,258 and 5,397,691 Pursuant to Local Rule 16-9(b) by Defendant Gilead Sciences, Inc. Case No. C-98-2994 CW [PJH]. 03/22/99
	914.	Response Chart to Chiron's Claim Chart on U.S. Patent Nos. 5,371,017, 5,585,258 and 5,397,691 Pursuant to Local Rule 16-9(b) by Defendant and Counterclaimant Gilead Sciences, Inc. Chiron Corporation v. Gilead Sciences, Inc. Case No. C-98-2994 CW [PJH], Related Action Nos. C-98-02995 CW [PJH] and C-98-02974 CW [PJH]. 03/22/99
	915.	Agouron's Response Chart to Chiron's Claim Chart on U.S. Patent Nos. 5,371,017, 5,558,258 and 5,397,691 Pursuant to Local Rule 16-9(b). Chiron Corporation v. Agouron Pharmaceuticals, Inc. Case No. C-98-2995 CW [PJH], Related Cases C-98-9874 CW and C-98-2994 CW. 08/04/99
	916.	Eli Lilly and Company's First Supplemental Disclosure of Prior Art for U.S. Patent Nos. 5,371,017, 5,585,258, and 5,597,691 Pursuant to Civil Local Rule 16-7(d). Chiron Corporation v. Eli Lilly and Company, and Vertex Pharmaceuticals, Inc. Case No. C-98-2974 CW, Related Action Nos. C-98-2994 CW and C-98-2995 CW. 08/04/99.
	917.	Vertex's Third Supplemental Disclosure of Prior Art for U.S. Patent Nos. 5,371,017, 5,585,258 and 5,597,691 Under Local Rule 16-7(d). Chiron Corporation v. Eli Lilly and Company, and Vertex Pharmaceuticals Incorporated. Civil No. 98-2974 CW (PJH), Related Action Nos. C-98-02994 CW [PJH] and C-98-02995 CW [PJH]. 08/04/99.
	918.	Joint Claim Construction Statement Pursuant to Local Rule 16-11(b). Chiron Corporation v. Eli Lilly & Co., Vertex Pharmaceuticals, Inc. No. C-98-02974 CW [PJH], Related Action Nos. C-98-02995 CW [PJH] and C-98-02994 CW [PJH]. 09/07/99.
	919.	Amended Response Chart Pursuant to Civil Local Rule 16-9(b) by Defendants Eli Lilly and Company and Vertex Pharmaceuticals Incorporated. Chiron Corporation v. Eli Lilly and Company and Vertex Pharmaceuticals Inc. Case No. C-98-2974 CW, Related Action Nos. C-98-2994 CW and C-98-2995 CW. 10/22/99.
	920.	Amended Response Chart Pursuant to Civil Local Rule 16-9(b) by Defendants Eli Lilly and Company and Vertex Pharmaceuticals Inc. Chiron Corporation v. Eli Lilly and Company and Vertex Pharmaceuticals, Inc. Case No. C-98-2974 CW, Related Action Nos. C-98-2994 CW and C-98-2995 CW. 10/22/99
	921.	Amended Response Chart Pursuant to Civil Local Rule 16-9(b) by Defendants Eli Lilly and Company and Vertex Pharmaceuticals Incorporated. Chiron Corporation v. Eli Lilly and Company and Vertex Pharmaceuticals, Inc. Case No. C-98-2974 CW, Related Action Nos. C-98-2994 CW and C-98-2995 CW. 11/18/99.

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	922.	Findings of Fact, Conclusions of Law and Proposed Order for Motion 4A by Defendants Agouron Pharmaceuticals, Inc. Chiron Corporation v. Agouron Pharmaceuticals, Inc. Case No. C 98-2995 CW (PJH)
	923.	Eli Lilly and Company's and Vertex Pharmaceutical Incorporated's Proposed Findings of Fact and Conclusions of Law in Support of a Judgment to Pierce Attorney-Client Privilege and Work Product Immunity Under the Crime-Fraud Exception. Chiron Corporation v. Eli Lilly and Company and Vertex Pharmaceuticals, Inc. Case Nos. C-98-2974 CW and C-98-2995 CW.
	924.	Reporter's Transcript of Proceedings Before Special Masters Catherine A. Yanni and David W. Yount. Chiron Corporation v. Eli Lilly and Company and Vertex Pharmaceuticals, Inc.; Chiron Corporation v. Gilead Sciences, Inc.; Chiron Corporation v. Agouron Pharmaceuticals, Inc. Case Nos. C-98-2974 CW ENE, C-98-2994 CW and C-98-2995 CW. 5/24/2000.
	925.	Hearing Before Special Master. Chiron Corporation v. Eli Lilly and Company and Vertex Pharmaceuticals, Inc.; Chiron Corporation v. Gilead Sciences, Inc.; Chiron Corporation v. Agouron Pharmaceuticals, Inc. Case Nos. C-98-2974 CW ENE, C-98-2994 CW and C-98-2995 CW. 9/8/1999.
	926.	Agouron Pharmaceuticals, Inc. for Request for Examination regarding Patent No. 5,371,017 filed on December 6, 1999 with exhibits thereto.
	927.	Vertex's Objections and Responses to Chiron's First Set of Interrogatories. Chiron Corporation v. Eli Lilly & Co. and Vertex Pharmaceuticals Inc. Civil No. C-98-2974 CW [PJH], Related Action Nos. C-98-2994 CW [PJH] and C-98-2995 CW [PJH]. 03/22/99
	928.	Defendant Eli Lilly and Company's Response to Chiron's First Set of Interrogatories. Chiron Corporation v. Eli Lilly and Company and Vertex Pharmaceuticals Inc. Case Nos. C-98-2974 CW [PJH], Related Action Nos. C-98-2994 CW and C-98-2995 CW. 03/22/99
	929.	Agouron's Supplemental Objections and Responses to Chiron's First Set of Interrogatories (Nos. 1-16). Chiron Corporation v. Agouron Pharmaceuticals, Inc. Case No. C-98-02995 CW [PJH], Related Action Nos. C-98-02974 CW [PJH] and C-98-02994 CW [PJH]. 08/19/99
	930.	Chiron's Responses to Vertex's First Set of Requests to Admit (Nos. 1-9). Chiron Corporation v. Eli Lilly and Company and Vertex Pharmaceuticals Inc. No. C-98-02974 CW [PJH], Related Case Nos. C-98-02994 CW [PJH] and C-98-02995 CW [PJH]. 12/08/99
	931.	Chiron's Answers to Agouron's First Set of Interrogatories (Nos. 1-19). Chiron Corporation v. Agouron Pharmaceuticals, Inc. No. C-98-02995 CW [PJH], Related Case No. C-98-02974 CW [PJH]. 01/25/00
	932.	Chiron's Responses to Vertex's Second Set of Requests to Admit (Nos. 10-42). Chiron v. Eli Lilly and Company and Vertex Pharmaceuticals Inc. No. C-98-02974 CW [PJH], Related Action No. C-98-02995 CW [PJH]. 02/01/00

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Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	933.	Chiron's Responses to Lilly's First Set of Requests to Admit (Nos. 1-50). Chiron Corporation v. Eli Lilly and Company and Vertex Pharmaceuticals Inc. No. C-98-02974 CW [PJH], Related Action No. C-98-02995 CW [PJH]. 02/01/00
	934.	Chiron's Responses to Agouron's First Set of Requests to Admit, and Subtended Interrogatories and Document Requests. Chiron Corporation v. Agouron Pharmaceuticals, Inc. No. C-98-02995 CW [PJH], Related Case No. C-98-02974 CW [PJH]. 02/04/00
	935.	Chiron's Supplemental Answers to Vertex's Second Set of Interrogatories (Nos. 8, 13-15). Chiron Corporation v. Eli Lilly and Company and Vertex Pharmaceuticals Inc. No. C-98-02974 CW [PJH], Related Case No. 98-02995 CW [PJH]. 02/16/00
	936.	Chiron's Supplemental Responses to Vertex's Second Set of Request to Admit (Nos. 23 and 37). Chiron Corporation v. Eli Lilly and Company and Vertex Pharmaceuticals Inc. No. C-98-02974 CW [PJH], Related Action No. C-98-02995 CW [PJH]. 05/31/00
	937.	Chiron's Supplemental Responses to Lilly's First Set of Requests to Admit (Nos. 2, 24, 37 and 49), Chiron Corporation v. Eli Lilly and Company and Vertex Pharmaceuticals Inc. No. C-98-02974 CW [PJH], Related Action No. C-98-02995 CW [PJH]. 05/31/00
	938.	Chiron's Supplemental Answers to Agouron's First Set of Interrogatories (Nos. 15-19). Chiron Corporation v. Agouron Pharmaceuticals, Inc. No. C-98-02995 CW [PJH], Related Case No. C-98-02974 CW [PJH]. 06/12/00
	939.	Chiron Corporation's Responses to Defendant Eli Lilly and Company's Supplemental Interrogatories. Chiron v. Eli Lilly and Company and Vertex Pharmaceuticals Inc. No. C-98-02974 CW [PJH], Related Case No. C-98-02995 CW [PJH]. 06/12/00
	940.	Chiron's Supplemental Responses to Agouron's First Set of Requests to Admit (Nos. 12-15 & 17-23). Chiron Corporation v. Agouron Pharmaceuticals, Inc. No. C-98-02995 CW (PJH), Related Case No. C-98-02974 CW [PJH], Related Case No. C-98-02974 CW [PJH]. 07/19/00
	941.	Chiron's Second Supplemental Responses to Vertex's Second Set of Requests to Admit. Chiron Corporation v. Eli Lilly and Company and Vertex Pharmaceuticals Inc. No. C-98-02974 CW [PJH], Related Action No. C-98-02995 CW [PJH]. 08/21/00
	942.	Chiron's Second Supplemental Responses to Lilly's First Set of Requests to Admit. Chiron Corporation v. Eli Lilly and Company and Vertex Pharmaceuticals Inc. No. C-98-02974 CW [PJH], Related Action No. C-98-02995 CW [PJH]. 08/21/00
	943.	Duplicate of Reference No. 938.
	944.	Excerpt from Laboratory Notebook of Qui-Lim Choo dated June 9, 1989, page 9.
	945.	Excerpt from Laboratory Notebook of Qui-Lim Choo dated August 22, 1989, page 25.

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	946.	Civil Action No. C 98-2974 (CW) Chiron Corporation v. Eli Lilly, Subpoena in a civil case duces tecum, Ex. 524 at 1/25/00 deposition of A. Gorbalenya.
	947.	Transcript of deposition of Dr. Alexander E. Gorbalenya in Civil Action No. C-98-02974 (related cases Nos. C-98-02994 CW and C-98-0295 CW) in Chiron Corp. v. Eli Lilly and Co. and Vertex Pharmaceuticals, Inc. before the U.S. District Court Northern District of California, Oakland Division (January 25, 2000).
	948.	Letter from H.-J. Thiel to A. Gorbalenya dated September 11, 1990, Ex. 515 at 1/25/00 deposition of A. Gorbalenya.
	949.	Letter from H.-J. Thiel to A. Gorbalenya dated December 28, 1990, Ex. 519 at 1/25/00 deposition of A. Gorbalenya.
	950.	Letter from A. Gorbalenya to M. Collett dated March 28, 1989, Ex. 512 at 1/25/00 deposition of A. Gorbalenya.
	951.	Letter from H.-J. Thiel to A. Gorbalenya dated October 24, 1990, Ex. 517 at 1/25/00 deposition of A. Gorbalenya.
	952.	Letter from A. Gorbalenya to M. Houghton dated May 20, 1990, Ex. 514 at 1/25/00 deposition of A. Gorbalenya.
	953.	Letter from A. Gorbalenya to H.-J. Thiel dated December 1990, Ex. 518 at 1/25/00 deposition of A. Gorbalenya.
	954.	Letter from A. Gorbalenya to S. Siddell dated February 17, 1991, part of Ex. 520 at 1/25/00 deposition of A. Gorbalenya.
	955.	Letter from S. Siddell to A. Gorbalenya dated March 5, 1991, Ex. 521 at 1/25/00 deposition of A. Gorbalenya.
	956.	Letter from A. Gorbalenya and E. Koonin to S. Siddell dated June 4, 1991, Ex. 523 at 1/25/00 deposition of A. Gorbalenya.
	957.	Letter from M. Collett to A. Gorbalenya dated April 13, 1989, Ex. 513 at 1/25/00 deposition of A. Gorbalenya.
	958.	The Journal of Virology "Referee's report on Paper" March 11, 1991, part of Ex. 522 at 1/25/00 deposition of A. Gorbalenya.
	959.	The Journal of General Virology, receipt for manuscript from A. Gorbalenya dated 4.3.91 and manuscript entitled "Hepatitis C virus encodes a putative serine protease related to the proteases of flavi- and pestiviruses," both part of Ex. 520 at 1/25/00 deposition of A. Gorbalenya.

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	960.	The Journal of General Virology, "Referee's report on Paper " February 28, 1991, part of Ex. 522 at 1/25/00 deposition of A. Gorbalenya.
	961.	Chiron Laboratory Notebook #1298, pp. 184-190, 192 (Nov., 1986); (previously considered in US 08/103,961, reference I.A.117).
	962.	Independent Legal Opinion Concerning Hepatitis C Inventorship Dispute", Jun. 1991; (previously considered in US 08/103,961, reference I.A.109).
	963.	Inventorship Opinion of Gladys Monroy dated Jun. 7, 1988; (previously considered in US 08/103,961, reference I.A.119).
	964.	Letter dated Oct. 16, 1989 from Mr. Lanman of the NIH to Robert Blackburn of Chiron Corporation.
	965.	Memorandum by Dr. Houghton, dated Nov. 10, 1987; (previously considered in US 08/103,961, reference I.A.118).
	966.	Memorandum by Dr. Michael Houghton (undated); (previously considered in US 08/103,961, reference I.A.116).
	967.	Memorandum dated Nov. 11, 1987 by Dr. Michael Houghton; (previously considered in US 08/103,961, reference I.A.115).
	968.	Memorandum Re Interview of Dr. Daniel Bradley dated Apr. 11, 1991; (previously considered in US 08/103,961, reference I.A.112).
	969.	Memorandum Re Interview of Dr. Lacy Overby dated Jun. 21, 1991; (previously considered in US 08/103,961, reference I.A.114).
	970.	Memorandum Re Interview of Dr. Michael Houghton dated May 8, 1991; (previously considered in US 08/103,961, reference I.A.111).
	971.	Memorandum Re Interviews of Dr. Amy Weiner and Dr. Gary Van Nest dated Apr. 30, 1991; (previously considered in US 08/103,961, reference I.A.113).
	972.	Memorandum Re Interviews of Dr. Qui-Lim Choo and Dr. George Kuo dated May 8, 1991; (previously considered in US 08/103,961, reference I.A.110).
	973.	Excerpts of the deposition testimony of Drs. Houghton, Choo and Kuo in Civil Action Nos. C-98-02995 CN and C-98-02974 CW.
	974.	Excerpts of the deposition testimony of Drs. Houghton and Choo in Civil Action Nos. C-98-02995 CN and C-98-02974 CW.

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U.S. PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Name	Class	Subclass	Filing Date if Appropriate
	975.	04/04/1990	07/505,434	Rosenberg application			
	976.	04/04/1991	07/680,358	Rosenberg application			
	977.	09/28/1992	07/956,433	Rosenberg application			
	978.	09/02/1993	08/116,048	Rosenberg application			
	979.	06/06/1994	08/254,496	Rosenberg application			
	980.	11/04/1986	4,620,948	Builder et al.			
	981.	11/15/1988	4,784,950	Hagen et al.			
	982.	05/29/1990	4,929,700	Halenbeck et al.			
	983.	06/05/1990	4,931,543	Halenbeck et al.			
	984.	12/11/1990	4,977,248	Creighton			
	985.	11/10/1992	5,162,507	Wolfe et al.			
	986.	05/17/1994	5,312,737	Bolling et al.			

FOREIGN PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Country	Class	Subclass	Translation YES NO	
	987.	02/10/1994	DE4240980	Germany			Abstract	
	988.	12/14/1989	DE P3819846	Germany			Abstract	
	989.	04/08/1987	0 217 645	Europe				
	990.	04/29/1987	0 219 874	Europe			Abstract	
	991.	06/19/1991	0 433 225	Europe				
	992.	12/23/1993	WO 93/25575	WIPO				
	993.	01/06/1989	64-02576	Japan			Abstract	
	994.	05/17/1989	1-124387	Japan			Abstract	
	995.	11/22/1994	6-319583	Japan			Abstract	
	996.	07/22/1997	9-187285	Japan			Abstract	

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	997.	Genbank Data Base Accession No. GNWVC3 (May 26, 2000).
	998.	Genbank Data Base Accession No. 3114526 (December 12, 1997).
	999.	Alter et al. (November 1, 1975) "Clinical and serological analysis of transfusion-associated hepatitis" <i>Lancet</i> 7940:838-841.
	1000.	Ayoola EA. (October 1984). "Circulating immune complexes and serum complement in Nigerian patients with non-A, non B hepatitis." <i>East. Afr. Med. J.</i> 61(10):752-756.
	1001.	Bazan, J.F. (1989) "Viral branches of the trypsin-like proteinase family" Viral proteinases as targets for chemotherapy: in <u>Current Communications in Molecular Biology</u> , Krausslich et al., eds., Cold Spring Laboratory Press, New York, pp. 55-62.
	1002.	Blight, K. J. et al. (1998). "Molecular virology of hepatitis C virus: an update with respect to potential antiviral targets" <i>Antiviral Therapy</i> 3(Suppl. 3):71-81.
	1003.	Bradley, D.W. et al., (1983) "Non-A, Non-B hepatitis: Research progress and current perspectives" <i>Dev. Biol. Standard</i> , Second WHO/IABS Symposium on Viral Hepatitis, Athens, Greece, 1982, 54:463-473.
	1004.	Bradley, D.W. et al. (1986). "Etiology and natural history of post-transfusion and enterically-transmitted non-A, non-B hepatitis." <i>Semin Liver Dis.</i> 6(1):56-66.
	1005.	Bradley, D.W. et al. (April 1988). "Virus of enterically transmitted non-A, non-B hepatitis" <i>Lancet</i> 1(8589):819.
	1006.	Burckhardt et al. (1988). "A hepatitis non-A, non-B-associated substance in the feces--identification and cloning of a partially double-stranded circular DNA." <i>Immun Infekt.</i> 16(3):91-96, article with English abstract.
	1007.	Burckhardt et al. (1988). "Hepatitis non-A, non-B-associated DNA--demonstration of DNA in proven infectious anti-D-immunoglobulin." <i>Immun Infekt.</i> 16(3):97-99, article with English abstract.
	1008.	Burow, B.V. (1982) "Klinischer verlauf and prognose der virushepatitis c--prospektive studie über zwei jahre" <i>Klinische Medizin, Dt. Gesundh.-Wesen</i> 37, Heft 2, pp. 56-60, with English abstract.
	1009.	Calisher et al. (1988) "Chapter 2: Arbovirus Serogroups: Definition and Geographic Distribution", <u>The Arboviruses: Epidemiology and Ecology</u> , Volume 1, Monath, T.P. ed., CRC Press, Inc., pp. 19-57.
	1010.	Carloni, G. et al. (1993). "Susceptibility of human liver cell cultures to hepatitis C virus infection." <i>Arch Virol [Suppl]</i> 8:31-39.

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	1011.	Chambers et al. (November 1990). "Evidence that the N-terminal domain of nonstructural protein NS3 from yellow fever virus is a serine protease responsible for site-specific cleavages in the viral polyprotein." <i>Proc Natl Acad Sci U S A.</i> 87(22):8898-8902.
	1012.	Chase, R. et al., (1997) "Purification and characterization of hepatitis C virus NS 3 helicase activity" <i>Antiviral Research, Abstract submitted for the Antiviral Research and the Tenth International Conference on Antiviral Research, Atlanta, Georgia, April 6-11, 1997, and published in Antiviral Research 34(2):pA92 Abstract no. 181.</i>
	1013.	Choo, Q-L et al. (1990). "Hepatitis C virus: the major causative agent of viral non-A, non-B hepatitis." <i>Brit. Med. Bull.</i> 46(2):423-441.
	1014.	Choo, Q-L et al., (1993) "Recombinant vaccine approaches to preventing HCV disease" <i>Abstract submitted to ISVHLD- the 8th Triennial International Symposium on Viral Hepatitis and Liver Disease at Tokyo, Japan from May 10-14, 1993, one page.</i>
	1015.	Chung, K. M. et al., (1997) "Hepatitis C virus nonstructural protein 5A contains potential transcriptional activator domains" <i>Mol. Cells</i> 7(5):661-667.
	1016.	Craxi, A. et al. (April 1985). "Polyalbumin receptors, hepatitis B surface antigen (HBsAg), and HBsAg/IgM complexes in HBsAg positive patients with and without delta superinfection." <i>J Med Virol.</i> 15(4):383-388.
	1017.	Davis, G. L. and Lau, J. Y. N. (1995). "Choice of appropriate end points of response to interferon therapy in chronic hepatitis C virus infection," <i>Journal of Hepatology</i> 22(Suppl. 1):110-114.
	1018.	De Bree F.M. et al. (August 1998). "Preparation and characterization of the recombinant selenomethionine analogue of insulin-like growth factor-I." <i>Protein Expr Purif.</i> 13(3):319-325.
	1019.	De Francesco, R. et al. (October 15, 1996). "A zinc binding site in viral serine proteinases." <i>Biochemistry.</i> 35(41):13282-13287.
	1020.	De Francesco, R. et al. (1998). "The Hepatitis C Virus NS3 Proteinase: Structure and Function of a Zinc-Containing Serine Proteinase" <i>Antiviral Therapy</i> 3(Suppl. 3):99-109.
	1021.	Degott, C. et al. (1986). "Serial transmission of a human non A-non B hepatitis viral strain to HBV-protected chimpanzees: successive histological and ultrastructural studies." <i>Liver</i> , 6:17-25.
	1022.	DesJarlais et al. (1990). "Structure-based design of nonpeptide inhibitors specific for the human immunodeficiency virus 1 protease" <i>Proc Natl Acad Sci U S A.</i> 87(17):6644-6648.
	1023.	Di Bisceglie, A.M. et al. (1995). "Hepatitis C and hepatocellular carcinoma." <i>Semin Liver Dis.</i> 15(1):64-69.

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	1024.	Dienstag et al. (1986). "Non-A, non-B hepatitis: Evolving epidemiologic and clinical perspective" <i>Sem. Liver Dis.</i> 6(1):67-81.
	1025.	Dragovitch, P.S. et al., (1998) "Structure-based design, synthesis, and biological evaluation of irreversible human rhinovirus 3C protease inhibitors. 1. Michael acceptor structure-activity studies" <i>J. Med. Chem.</i> 41:2806-2818.
	1026.	Drews, J. and Ryser, S. (1996). "Innovation Deficit in the Pharmaceutical Industry," <i>Drug Information Journal</i> 30:97-108.
	1027.	Gubler, D.J. (1988) "Chapter 23: Dengue" <i>The Arboviruses: Epidemiology and Ecology</i> , Volume 2, Monath, T.P. ed., CRC Press, Inc., pp. 223-260.
	1028.	Hollinger, F.B. et al. (1991) "Tribute to Joseph L. Melnick, Ph.D." <i>Proceedings of 1990 International Symposium on Viral Hepatitis and Liver Disease</i> , The 7th Triennial Congress, pp. 3-4.
	1029.	Houghton et al., (1993) "Hepatitis C viruses: highly heterogeneous relatives of the flaviridae family causing persistent infection" <i>Abstract submitted to ISVHLD- the 8th Triennial International Symposium on Viral Hepatitis and Liver Disease at Tokyo, Japan from May 10-14, 1993</i> , one page.
	1030.	Inokuchi et al. (1994). "Correlation of quantitative HCV-RNA levels using a branched DNA enhanced level amplification assay with therapeutic effects of β -interferon in patients with chronic hepatitis C" <i>Int Hepatology Comm.</i> 2:375-382.
	1031.	Iwarson, S.A. (September 26, 1987) "Non-A, non-B hepatitis: dead ends or new horizons" <i>British Medical Journal</i> 295:946-948.
	1032.	Joyce, C. (May 26, 1988) "Researchers find elusive hepatitis virus" <i>New Scientist</i> , Science, page 43.
	1033.	Kendrey, G. et al., (1975) "Intranuclear virus-like particles in HB ₈ AG and IH _X AG negative acute hepatitis (type C?) <i>Acta Morphologica Acad. Sci. Hung.</i> 23(2):173-177
	1034.	Kim, J.P. et al., (1990) "Rapid and efficient recovery of HCV(CDC) genomic clones utilizing sequence independent single primer amplification (SISPA)" <i>The 1990 International Symposium on Viral Hepatitis and Liver Disease (The 7th Triennial Congress) April 4, 1990-April 8, 1990</i> , Abstract No. 361, one page.
	1035.	Kohara, M. (1993). "Antigenicities of Groups I and II Hepatitis C Virus" <i>Nippon Rinsho</i> 51(2):338-343, with English abstract.
	1036.	Lin, C. (1997) "The hepatitis C virus NS4A protein: interactions with the NS4B and NS5A proteins" <i>4th International Meeting on Hepatitis C virus and related viruses, Molecular Virology and Pathogenesis</i> , March 6-10, 1997, Kyoto International Conference Hall, Japan, page 20, abstract.

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	1037.	Maezo, M. et al., (1990) "Isolation and characterization of a cDNA that is closely associated with non-a, non-e hepatitis" <i>The 1990 International Symposium of Viral Hepatitis and Liver Disease, April 4, 1990-April 8, 1990</i> , Abstract no. 365, one page.
	1038.	Matsuda, J.-I. (February 1998) "Transgenic mouse expressing a full-length hepatitis C virus cDNA" <i>Jpn. J. Cancer Res.</i> 89:150-158.
	1039.	Moenkli, P.A. et al., (1990) "Epitope mapping of the HCV nonstructural region" <i>International Symposium of Viral Hepatitis and Liver Disease, April 4, 1990-April 8, 1990</i> , Abstract No. 358, one page.
	1040.	Monath TP, (1989) "Chapter 51: Yellow Fever." in <i>The Arboviruses: Epidemiology and Ecology</i> , Volume 5, Monath, T.P. ed., CRC Press, Inc., pp. 139-231.
	1041.	Morgenstern, K.A. et al., (1997) "Polynucleotide modulation of the protease, NTP-protease and helicase activities of a hepatitis C virus NS3-NS4 complex isolated from transfected COS cells" <i>4th International Meeting on Hepatitis C virus and related viruses, Molecular Virology and Pathogenesis</i> , March 6-10, 1997, Kyoto International Conference Hall, Japan, page 100, abstract.
	1042.	Murphy, H.M.K. et al, (February 26, 1999) "Dengue virus NS3 serine protease" <i>J. Biol. Chem.</i> 274(9):5573-5580.
	1043.	Nelson, D. R. et al. (February 1, 1997). "The role of hepatitis C virus-specific cytotoxic T lymphocytes in chronic hepatitis C," <i>J. Immun.</i> 158(3):1473-1481.
	1044.	Nicklin et al. (December 1988) "Poliovirus proteinase 3C: Large-scale expression, purification and specific cleavage activity on natural and synthetic substrates in vitro," <i>J. Virol.</i> 62: 4586-4593.
	1045.	Nishioka et al. (January 15, 1991). "A high prevalence of antibody to the hepatitis C virus in patients with hepatocellular carcinoma in Japan." <i>Cancer.</i> 67(2):429-433.
	1046.	Pasquo, A. et al., (1998) "Rational design and functional expression of a constitutively active single-chain NS4A-NS3 protein" <i>Fold. Des.</i> 3(6):433-441.
	1047.	Reed, K. E. et al., (July 1998) "The NS5A/NS5 proteins of viruses from three genera of the family <i>Flaviviridae</i> are phosphorylated by associated serine/threonine kinases" <i>J. Virol.</i> 72(7):6199-6206.
	1048.	Rice, C.M. (December 1990). "Overview of flavivirus molecular biology and future vaccine development via recombinant DNA." <i>Southeast Asian J Trop Med Public Health.</i> 21(4):670-677.
	1049.	Rico-Hesse et al., (1990) "Molecular Evolution and distribution of dengue viruses types 1 and 2 in nature" <i>Virology</i> 174:479-493.
	1050.	Shafan, S.D. et al. (May/June 1996). "A B C D E F G ..." <i>Can. J. Infect. Dis.</i> 7(3):181-182.

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Form PTO-1449 INFORMATION DISCLOSURE CITATION IN A PATENT <i>(several sheets followed)</i>	Docket No. 223002010004	Application No.: 09/884,455
	Applicant: Michael Houghton et al.	
	Filing Date: June 18, 2001	Group Art Unit: 1656 Examiner: William W. Moore Confirmation No.: 1938
	Delivery Date: September 14, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	1051.	Sherman, G. et al. (1997) "Development of a permanent cell line which expresses HCV nonstructural proteins" <i>Abstracts of the 37th Interscience Conference on Antimicrobial Agents and Chemotherap</i> , September 28-October 1, 1997, Toronto, Ontario, Canada 37:217, Abstract No. H-20.
	1052.	Spall, et al. (1997) "Viruses employing polyprotein processing as the principal strategy of genome expression" <i>Seminars in Virol.</i> 8:16-23.
	1053.	Strauss, J.H. et al. (1990). "The Structure and Function of the Flavivirus and Pestivirus Genomes," <i>Proceedings of the 1990 International Symposium on Viral Hepatitis and Liver Disease</i> , pp. 1-40.
	1054.	Takeuchi, K. et al., (1990) "Molecular cloning of hepatitis C virus cDNA from plasma of an implicated donor of post-transfusion non-a, non-b hepatitis" <i>International Symposium of Viral Hepatitis and Liver Disease, April 4, 1990-April 8, 1990</i> , Houston, Texas, Abstract No. 363, one page.
	1055.	Tramontano, A. (1998) "Homology modeling with low sequence identity" <i>Methods; A companion to Methods in Enzymology</i> 14:293-300.
	1056.	Tsai, S.L. et al., (February 1997) "Detection of type-2-like T-helper cells in hepatitis C virus infection: implications for hepatitis C virus chronicity" <i>Hepatology</i> 25(2):449-458.
	1057.	Tsukiyama-Kohara, K. et al. (1991). "A second group of hepatitis C viruses" <i>Virus Genes</i> 5(3):243-254.
	901.	Zuckerman, A.J., (1990) "Hepatitis C virus: a giant leap forward" <i>Hepatology Elsewhere</i> 11(2):322-323.

EXAMINER:	DATE CONSIDERED:
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	Applicant: Michael Houghton et al.	
	Filing Date: June 18, 2001	Group Art Unit: 1656
	Delivery Date: September 4, 2009	

U.S. PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Name	Class	Subclass	Filing Date If Appropriate

FOREIGN PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Country	Class	Subclass	Translation YES NO

OTHER DOCUMENTS *(including author, title, Date, Pertinent Pages, Etc.)*

Examiner Initials	Ref. No.	Title
	1058.	Agouron's Request for Reexamination of U.S. Patent No. 5,585,258 and appendix.
	1059.	Order re: Defendant Agouron's Motion For <i>In Camera</i> Review of Various Chiron Documents Pursuant to the Crime-Fraud Exception to the Attorney-Client Privilege. Special Master Yanni, Case No. C-98-2974 CW, Related Action Nos. C-98-2994 CW and C-98-2995 CW. United States District Court, Northern District of California. 4/16/01.

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	Applicant: Michael Houghton et al.	
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U.S. PATENT DOCUMENTS

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FOREIGN PATENT DOCUMENTS

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OTHER DOCUMENTS

Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	1060.	Clerk's Notice Deeming Objection Denied, Chiron Corporation v. Agouron Pharmaceutical, Inc., in Civil Action No. Case No. C-98-2995 CW, June 12, 2001, 3 pages.
	1061.	Order re: Defendants Lilly and Vertex's Crime-Fraud Motion in Civil Action No. C-98-02974 CW (PJH) (related cases Nos. C-98-02994 CW (PJH) and C-9802995 CW (PJH) in Chiron Corp. v. Eli Lilly and Co. and Vertex Pharmaceuticals, Inc. before the U.S. District Court of Northern District of California, Oakland Division June 11, 2001, pp. 1-25.
	1062.	Anonymous, (May 16, 1988) "Chiron wins non-A, non-B virus race; rivals concede" <i>Biotechnology Newswatch</i> , 8(10):1 and 3.
	1063.	Anonymous, (August 7, 1989) "Hepatitis C antigens cloned" <i>Biotechnology Newswatch</i> , one page.
	1064.	Anonymous, (August 5, 1989) "Will the real hepatitis C stand up?" <i>The Lancet</i> , 2(8658):307-308.
	1065.	Anonymous, (October 8, 1996) "Call to Prioritise Hepatitis C," <i>Scrip</i> No. 2170, page 20, located in Dialog database, file 129, 2 pages.
	1066.	Bartenschlager, R. (1997) "Molecular Targets in Inhibition of Hepatitis C Virus Replication" <i>Antiviral Chemistry and Chemotherapy</i> 8(4):281-301.

EXAMINER:	DATE CONSIDERED:
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	Applicant: Michael Houghton et al.	
	Filing Date: June 18, 2001	Group Art Unit: 1656
	Delivery Date: September 4, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	1067.	Beach, M. and Bradley, M. (1990) "Analysis of the Putative Nonstructural Gene Region of Hepatitis C Virus," Section 4: Hepatitis C Virus in <i>Proceedings of the 1990 International Symposium on Viral Hepatitis and Liver Disease: Contemporary Issues and Future Prospects</i> , F.B. Holligner, M.D. et al. eds., Williams and Wilkins, pp. 376-381.
	1068.	Blair, C.S. et al. (1996) "Anti-infectives: current perspectives on the treatment and prevention of hepatitis C infection" <i>Exp. Opin. Invest. Drugs</i> 5(12):1657-1671.
	1069.	Bradley, D.W. et al., (February 1981) "Persistent non-A, non-B hepatitis in experimentally infected chimpanzees" <i>The Journal of Infectious Diseases</i> , 143(2):210-218.
	1070.	Bradley, D.W. et al., (1984) "Non-A, non-B hepatitis in chimpanzees: effects of immunosuppression on course of disease and recovery of tubule-forming agent from infected liver" Chapter 39 in <i>Viral Hepatitis and Liver Disease</i> , G.N. Vyas, et al., eds., Grune and Stratton, Inc., pp. 451-458.
	1071.	Bradley, D.W. et al., (1990) "The viruses of non-A, non-B hepatitis" <i>VIIIth International Congress of Virology</i> , Berlin, Abstract W11-001.
	1072.	Collett, M.S. et al., (1990) "Molecular characterization of the pestivirus bovine viral diarrhea virus" <i>VIIIth International Congress of Virology</i> , Berlin, Abstract W21-001.
	1073.	Esposito, G. et al. (1995) "Inhibition of NS3-NS4A dependent HCV polyprotein processing by a human monoclonal antibody" <i>Fifth International Symposium on Hepatitis C virus and related viruses (Molecular Virology and Pathogenesis)</i> , Australia, August 28-September 3, 1995, one page abstract.
	1074.	Failla, C. et al. (1995) "Engineering the hepatitis C virus NS3 protease: design of new specificities" <i>Fifth International Symposium on Hepatitis C virus and related viruses (Molecular Virology and Pathogenesis)</i> , Australia, August 28-September 3, 1995, one page abstract.
	1075.	Fields, H.A. et al. (1982) "Non A/Non B hepatitis detection methodology: A review" <i>The ligand Quarterly</i> , 5(1):29-33.
	1076.	Graf, L. et al., (1987) "Selective alteration of substrate specificity by replacement of aspartic acid-189 with lysine in the binding pocket of trypsin" <i>Biochemistry</i> 26(9):2616-2623.
	1077.	Gravelle, C.R. et al., (June 1982) "Temporal patterns of ultrastructural alterations in hepatocytes of chimpanzees with experimental non-A, non-B hepatitis" <i>The Journal of Infectious Diseases</i> 145(6):854-858.

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	Applicant: Michael Houghton et al.	
	Filing Date: June 18, 2001	Group Art Unit: 1656
	Delivery Date: September 4, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	1078.	Griffith, V. (February 25, 1997) "A cure in search of diseases: researchers aim to extend protease inhibitor's success against Aids to other disorders", <i>Financial Times Limited (London)</i> , page 15.
	1079.	Kim, J.L. et al., (April 4, 1997) Erratum in Cell 89(1):159 of article published in Cell 87(2):345-355 on October 18, 1996 entitled "Crystal structure of the hepatitis C virus NS3 protease domain complexed with a synthetic NS4A cofactor peptide".
	1080.	Pletnev, A.G. et al., (January 1990) "Nucleotide sequence of the genome and complete amino acid sequence of the polyprotein of tick-borne encephalitis virus" <i>Virology</i> 174(1):250-263.
	1081.	Russell, P.K. et al., (1980) "Chemical and antigenic structure of flaviviruses" Chapter 18, in <u>The Togaviruses, Biology, Structure, Replication</u> , Schlesinger, R.W., ed., Academic Press, pp. 503-529.
	1082.	Sherman, G. et al., "Development of a permanent cell line which expresses hcv nonstructural proteins" Abstract No. H-20, one page.
	1083.	Sudo et al., (1997) "Novel hepatitis C virus protease inhibitors: 2,4,6-trihydroxy, 3-nitro-benzamide derivatives." <i>Antiviral Chemistry & Chemotherapy</i> , 8(6):541-544.
	1084.	Tabor, E. et al., (1979) "Detection of an antigen-antibody system in serum associated with human non-A, non-B hepatitis" <i>Journal of Medical Virology</i> 4:161-169.
	1085.	Tainer, J.A. et al. (1991) "Metal-binding sites in proteins" <i>Curr Opin Biotechnol.</i> 2(4):582-591.
	1086.	Tsiang, M. "Substrate specificity of HCV NS3 genome analyzed with modified peptide substrates" <i>Antiviral Research</i> Abstract No. 180, one page.
	1087.	Villarejos, V.M. et al., (1984) "Observations on an antigen-antibody system related to non-A, non-B hepatitis" Chapter 28 in <u>Viral Hepatitis and Liver Disease</u> , G.N. Vyas et al., eds., Grune and Stratton, 367-369.
	1088.	Villarreal et al. (January 27, 1997) "Structural Bioinformatics, Inc. and CyberChemics, Inc. collaborate to speed the generation of hepatitis C viral protease inhibitors" <i>Business Wire</i> , p1270170, located in Dialog database in file 649, fulltext, 2 pages.

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	Applicant: Michael Houghton et al.	
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Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	1089.	Order Following <i>In Camera</i> Review of Chiron's Privileged Documents Pursuant to Agouron Crime-Fraud Motion in Civil Action No. C-98-02974 CW (PJH) (related cases Nos. C-98-02994 CW (PJH) and C-9802995 CW (PJH) in Chiron Corp. v. Eli Lilly and Co. and Vertex Pharmaceuticals, Inc. before the U.S. District Court of Northern District of California, Oakland Division July 18, 2001, 5 pages.

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	Applicant: Michael Houghton et al.	
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U.S. PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Name	Class	Subclass	Filing Date if Appropriate
	1090.	06/16/1987	4,673,634	Seto et al.			
	1091.	10/27/1987	4,702,909	Villarejos et al.			
	1092.	12/06/1994	5,371,017	Houghton et al.			

FOREIGN PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Country	Class	Subclass	Translation YES NO
	1093.	06/01/89	WO89/04669	WIPO			

OTHER DOCUMENTS

Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	1094.	Korant et al., (1988) "Viral proteases: an emerging therapeutic target" <i>CRC Crit. Rev. Biotech.</i> 8(2):149-157.
	1095.	Pichuanes, S. et al., (1989) "Expression of authentic and enzymatically active HIV-1 proteinase in bacteria and yeast" in <u>Current Communications in Molecular Biology, Viral Proteases as Targets for Chemotherapy</u> , Cold Spring Harbor Laboratory Press, Krausslich, H. et al., Eds., pp. 215-222.
	1096.	McQuade et al., (1990) "A synthetic HIV-1 protease inhibitor with antiviral activity arrests HIV-like particle maturation" <i>Science</i> 247:454-456.
	1097.	Order Sustaining Plaintiff's Objection to Special Master's Order Re: Defendants Lilly and Vertex's Crime-Fraud Motion for the United States District Court for the Northern District of California for Civil Case No. C 98-02974 CW, between Plaintiff, Chiron Corporation and, Defendants, Eli Lilly and Co., Vertex Pharmaceuticals Inc., 14 pages.
	1098.	Chiron Corporation's request for reexamination of the 5,371,017 patent, filed with the United States Patent and Trademark Office on October 8, 1999, 8 pages, with U.S. PTO Form 1449, 5 pages.

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	Applicant: Michael Houghton et al.	
	Filing Date: June 18, 2001	Group Art Unit: 1656
	Delivery Date: September 4, 2009	

Examiner Initials	Ref. No.	OTHER DOCUMENTS <i>(including author, title, date, etc.)</i>
	1099.	Order Granting Request for Reexamination of the 5,371,017 patent, control no. 90/005,512, issued on December 22, 1999, paper no. 5, 3 pages, and intialled Form 1449 (5 pages), and Notice of Reexamination Request Filing Date, one page (paper no. 3).
	1100.	Order Granting Request for Reexamination of the 5,371,017 patent, control no. 90/005,582, issued on February 22, 2000, paper no. , 4 pages, with U.S. PTO Form 1449.
	1101.	Office Action in Reexamination of the 5,371,017 patent, issued on November 9, 2000, paper no. 6, 4 pages.
	1102.	Chiron Corporation's request for reexamination of the 5,585,258 patent, filed with the United States Patent and Trademark Office on October 8, 1999, 7 pages, with U.S. PTO Form 1449, 5 pages.
	1103.	Order Granting Request for Reexamination of the 5,585,258 patent, control no. 90/005,513, issued on December 22, 1999, paper no. 5, 5 pages, and intialled Form 1449 (5 pages), and Notice of Reexamination Request Filing Date, one page (paper no. 3).
	1104.	Office Action in Reexamination of the 5,585,258 patent, issued on November 9, 2000, 5 pages.
	1105.	Patent Owner's Response to Office Action in Reexamination of the 5,585,258 patent, under 37 C.F.R. §1.550(b) filed on February 20, 2001, 15 pages, with Exhibits A-M.
	1106.	Chiron Corporation's request for reexamination of the 5,397,691 patent, filed with the United States Patent and Trademark Office on October 8, 1999, 7 pages, with U.S. PTO Form 1449, 5 pages.
	1107.	Order Granting Request for Reexamination of the 5,397,691 patent, control no. 90/005,514, issued on December 22, 1999, paper no. 5, 4 pages, and intialled Form 1449 (5 pages).
	1108.	Office Action in Reexamination of the 5,397,691 patent, issued on November 9, 2000, 4 pages.
	1109.	Patent Owner's Response to Office Action in Reexamination of the 5,397,691 patent, under 37 C.F.R. §1.550(b) filed on February 20, 2001, 15 pages, with Exhibits A-M.
	967.	Memorandum by Dr. Michael Houghton (undated); (previously considered in US 08/103,961, reference I.A.116).

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